

On behalf of:



Federal Ministry  
for the Environment, Nature Conservation  
and Nuclear Safety

of the Federal Republic of Germany



Ministry of Housing and Urban Affairs  
Government of India



Smart City  
MISSION TRANSFORM-NATION



# Training on Green Buildings

## Training Manual for Training Institutes

Supported by

**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

**lifu**  
Deutsches Institut  
für Urbanistik

**niu** | **C<sup>3</sup>**  
Climate Centre for Cities



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# List of Abbreviations

<b>BMI</b>	German Ministry of Interiors Building and Community
<b>BMU</b>	German Ministry of Environment, Nature Conservation and Nuclear Safety
<b>BMZ</b>	German Federal Ministry for Economic Cooperation and Development
<b>CDWM</b>	Construction and demolition waste management
<b>CSC</b>	Climate Smart Cities project
<b>CSCAF</b>	Climate Smart Cities Assessment Framework
<b>DIFU</b>	German Institute of Urban Affairs (Deutsches Institut für Urbanistik)
<b>GDCR</b>	General Development Control Regulations
<b>GHG</b>	Green House Gas
<b>GIZ</b>	German Agency for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit)
<b>IKI</b>	German International Climate Initiative
<b>MoHUA</b>	Ministry of Housing and Urban Affairs
<b>NDC</b>	Nationally Determined Contributions
<b>NIUA</b>	National Institute of Urban Affairs
<b>SDG</b>	Sustainable Development Goals
<b>SWM</b>	Stormwater Management
<b>SWOM</b>	Strengths, Weaknesses, Opportunities, Measures
<b>SWOT</b>	Strengths, Weaknesses, Opportunities, Threats
<b>TU Berlin</b>	Technical University of Berlin
<b>UGP</b>	Urban Green Planning
<b>ULB</b>	Urban Local Body
<b>WRI</b>	World Resource Institute



# Introduction to The Training Course

## About the project

The training on Green Buildings are facilitated within the framework of the Climate Smart Cities (CSC) project (2018-2022). The CSC project is funded under the German International Climate Initiative (IKI), by the German Ministry of Environment, Nature Conservation and Nuclear Safety (BMU) in cooperation with the German Ministry of Interiors Building and Community (BMI) and coordinated by GIZ jointly with MoHUA, Government of India. Implementing project partners are the German Institute of Urban Affairs (Difu), NIUA and the Technical University of Berlin (TU Berlin). The CSC project attempts to anchor climate-friendly solutions within the Smart Cities Mission.

The project contributes to the achievement of the Nationally Determined Contributions (NDCs) to the Climate Goals as well as the Sustainable Development Goals (SDG). It acts as a facilitator in promoting cooperation between national and subnational actors by technically supporting international advisory and exchange formats and by supporting the implementation of measures.

The project works with three Indian Smart Cities of Bhubaneswar, Coimbatore, Kochi and their respective state governments of Odisha, Tamil Nadu and Kerala, in the planning and implementation of smart and climate-friendly measures for infrastructure and area-based development, as well as the measuring and monitoring of their Green House Gas (GHG) emissions.

## The Climate Smart Cities Assessment Framework

MoHUA launched the Climate Smart Cities Assessment Framework (CSCAF) under the Smart Cities Mission in February 2019 jointly with GIZ and NIUA. The CSCAF serves as a tool for cities to assess their present situation and provides a roadmap for cities to adopt and implement relevant climate actions. It is the first city assessment framework on climate relevant parameters in India. During this training, participants will take first steps to assess the status of urban green in their respective cities and receive knowledge they need to improve conditions in the future.

The CSCAF 2.0 is broadly categorised into 5 sectors with 28 indicators (see figure 1). Each of these indicators has a maximum of 5 levels representing different stage of development each with a corresponding weightage:

- i. Energy and Green Buildings,
- ii. Urban Planning, Green Cover and Biodiversity,
- iii. Mobility and Air Quality,
- iv. Water Management, and
- v. Waste Management.

The indicators are progressive in nature to encourage cities to adopt appropriate actions enabling them to improve their score in the future and consequently build climate resilience. To enable this progress, MoHUA aims to conduct the assessment on an annual basis. The framework has been designed to capture the contribution of cities to the national and international initiatives like National Mission on Sustainable Habitat, Intended Nationally Determined Contributions and Sustainable Development Goals. The cities need to constantly work towards becoming Climate Smart and continuously build their capacities. During the assessment, the MoHUA is also looking forward to providing cities with the required capacity building tools and measures that will help them improve and evolve their readiness to combat climate change.

## The approach

Within the CSC project, staff of urban local bodies (ULB) and other relevant actors receive trainings to build their capacity to perform the CSCAF independently. To this end, the training is based on practice-oriented and interactive learning. Participants are introduced to the theoretical background, participate in structured exercise activities, and reflect on what has been learned and its applicability to their own cities. At the conclusion of the training, participants have the knowledge and motivation to implement local actions.

This training is part of the larger capacity building work that has been envisioned as part of the CSCAF, and the training institutes which attend the training are expected to carry it forward with cities in their regions by contextualising and disseminating the learnings.

The intent of this manual is to enable you as a trainer to deliver the training on Green Building for planning practitioners, especially in local administrations across India. As such, the manual aligns with the objectives of the training to:

- Create awareness,
- Improve knowledge,
- Demonstrate the potential and possibilities,
- Engage the topic through interactive exercises, and
- Motivate and empower to act.

# Introduction to Green Buildings Training

## Key content:

- Context and purpose of the training
- Expectations Management
- Green Buildings in the CSCAF

## Learning goals:

- learn about the topic and the aim of the workshop and relate expectations to them
- learn about the relevant parts of the CSCAF for Green Buildings

The training has to be delivered against the backdrop of the smart cities mission. While the smart city concept is mostly associated with applying technology, it does not necessarily imply only digital approaches but an efficient use of available resources. For Green Buildings, this may include innovation in construction material and building operation technologies, especially in the field of energy efficiency, but also the use of traditional building materials and techniques.

The intent of the training on Green Building is to inform about the importance of the building sector with regard to the challenges of climate change. The training aims to provide knowledge about the functions, potentials and challenges of green building and its importance for sustainable and smart urban development. Participants' understanding of green building should cover building-level and neighbourhood-level approaches and include an understanding of green building in city-wide planning and policies. Furthermore, the training will familiarise participants with the 'green building' dimension of the CSCAF.

Training participants will be enabled to analyse the current status of green buildings in their respective cities and respective policies and regulations and take first steps to implement such strategies. They will become familiar with additional approaches how to bolster green building practices in their cities.

## Green Buildings in the CSCAF

The Energy and Green Building's indicators on promotion and adoption of green buildings emphasize to address the built environment, as they are prime contributors to GHG emissions. The CSCAF approach to green buildings attempts to anchor climate friendly solution regarding indicator 5 and 6.

- Indicator 5: Promotion of Green Building
- Indicator 6: Green Building Adoption

Especially Indicator 5 (Promotion of Green Building) addresses four key measures to assess the readiness of the city regarding green buildings; 1) its compliance procedures, 2) penalty/ reward schemes, 3) stakeholder co-operation for promotion of new and existing green, 4) and construction of energy efficient buildings. Compliance and implementation procedures for various green building norms at city level requires integration of these provisions in the General Development Control Regulations (GDCRs), building bye-laws/rules, formation of green building cells/ equivalent in ULBs etc. The indicator includes institutionalizing a green building cell at the ULB level for knowledge dissemination, and a functioning high-level green building committee acting as strategic advisory and promotional/ penalty schemes available for code compliance, pre- certification, and certification of green buildings.

The other measures encourage the design and construction of new buildings as per the energy efficient and green building norms. This include incentivizing the city for promoting green building with respect to the total number buildings approved for construction and occupancy in the city for assessment year.

The indicators formulated are progressive levels and aspirational in nature from level '1' to level '5'.<sup>1</sup> Each indicator assesses as well as provide guidance to progress and achieve the next highest levels. Cities will be assessed based on the existing situation and guidance will be provided for cities aspiring to achieve progress in the next phase of assessment. This will provide each city with a roadmap enabling them to chart their own progress and devise relevant actions to address the same.

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<sup>1</sup> For more information on the indicators and the specific sub-levels, please refer to [https://www.niua.org/csc/assets/pdf/CSCAF\\_2\\_Booklet.pdf](https://www.niua.org/csc/assets/pdf/CSCAF_2_Booklet.pdf)

# General Training Introduction

## Key content:

- General structure and content of the Green Buildings training
- Methods to prepare the training and include external expertise

## Learning goals:

- Develop capacity to develop an agenda for the Green Buildings training
- Gain clarity on good practice in hosting trainings
- Learn tools to systematically prepare a training and coordinate with all contributors

Trainings are vital to replicate the successful development and implementation of climate mitigation and adaptation strategies. The packaged information and materials make it easy to transfer and customize the training multiple times over. However, it is the trainer who ensures the effectiveness of the training. The trainers also contribute to an important aspect of convening a class of participants, creating a sense of community for a cohort of participants who become partners in the journey to sustainable practices.

This section of the manual contains some general guidelines for trainers on how to provide for an engaging and fruitful training experience, as well as an introduction to a structured preparation process with external contributors.

## Content and Structure of Training Modules

The training is divided into thematic modules that use a combination of short introductory lectures, case work and exercises, wrap-up sessions and discussions, as well as individual work and readings. The structure allows for maximum flexibility to adapt trainings for specific needs. The recommended duration of total training time is three days to adequately cover all modules. The training is designed as an online workshop; therefore, it can work with a large number of participants. When held as in-person workshop, the training would work best with 15-25 participants facilitated by two trainers.

## Methodology of the training course

The training methodology is based on interactive, practice-oriented exercises linked to the CSCAF and other useful tools. Modules contain one or several of the following basic elements.

**Input:** The necessary theoretical background is provided to frame the topic and identify the need for action. This includes general to specific information from legal framework, environmental consequences to best practices.

**Exercise:** The interactive part of the training provides hands-on experience to apply technology to assess a city's rating on the CSCAF indicators. Site visits are recommended for in-person situations to provide on-site exposure to tangible conditions. In remote-only trainings, a virtual tour of some facilities may be included.

**Reflection rounds:** The reflection elements can be part of each module or cover multiple modules. Participants are invited to reflect upon and share their experiences with the exercise and the topic.

## Agenda

The following agenda is based on a three-day training and can be adapted according to your own needs. In general, it is suggested to have two 90 minutes sessions in the morning and two in the afternoon. In case of an online training, a shorter agenda with one 90 minutes session in the morning and one in the afternoon is recommended. Virtual meetings tend to be more tiresome, when running for too long.

Day 1	Day 2	Day 3
<b>Morning</b>	<b>Morning</b>	<b>Morning</b>
Inaugural and Introduction session	Module 'Building Level'	Module 'City Level' – CSCAF Indicator 5
	Exercise on Building level tools	Exercise on Indicator 5
<b>Afternoon</b>	<b>Afternoon</b>	<b>Afternoon</b>
Introduction to the general topic	Module 'Neighbourhood Level'	Module 'City Level' and development of next steps
Exchange session/ Pre-Assessment	Exchange Session	Feedback and Closing Session

## How to prepare and conduct successful trainings?

The following information will assist in the preparation and delivery of training modules. While not exhaustive, this list provides general guidance for preparing and conducting an effective training.

### Preparation Phase

- Participants should be invited as early as possible. The invitation should be attractively designed to motivate participation. Participants should be decision makers, whether high level official or operational manager. This helps to ensure implementation. It is also helpful to have participants with prior interest in the subject matter.
- Power Point slides to introduce and support each module should be prepared in advance. Participants will receive them as documentation of substantial information.
- A workbook containing instructions and necessary background information for casework and exercises should be compiled in advance.

### Start of the Workshop

- First impressions are important! When hosting an in-person workshop, participants should be greeted during registration with Identity-card, notebook, pen, and a folder. The folder should contain the workshop agenda, background information and important notes regarding timings, logistics and facility safety. In case of an online-only session, relevant information and documents can be sent to the participants in advance. At the beginning of the training, the situation online is much more anonymous, but welcoming the participants personally is still possible: everyone should be kindly requested to activate their cameras, introduced to the workshop room/presentation tool, and given a warm welcome greeting.
- In introductory remarks, the challenges and opportunities should be clarified. Participants should be met with a compelling presentation and supported data. Lastly, the remarks should make participants feel welcomed and ready to engage in the training.
- Introduction of the agenda structure should be brief, pointing out the active role of participants and presenting the training manual as back-up.

## During the Workshop

- To keep concentration high, the use of warm-up games or icebreakers in the mornings or after lunch is recommended. These simple activities could be physical exercise, games, or quizzes related or not related to the topic. Examples can be found here <https://paradigmshiftleadership.com/tag/icebreakers/>.
- It is beneficial to reflect on what has happened and what will happen next when finishing and starting new sessions or modules.
- Time for questions, feedback, and reflections should be reserved.
- Group work and individual work should be balanced equally.
- For group work, clear tasks supported by leading questions need to be provided.
- Following the scheduled agenda as closely as possible is important. Yet, a certain amount of flexibility is required to accommodate the participants with any necessary changes.
- The exact time for continuance should always be announced, for example "at 12:45" instead of "in 15 mins".
- Frequent breaks are required to keep the concentration level high. This is especially important for online trainings.
- Providing participants with hand-outs of any additional information as well as a summary of key messages is always helpful. The training manual should be used throughout the entire training.
- A short outlook and the starting time for the following day to ensure participants arrive on time should always be given at the end of the day.

## How-to work with external experts

This section contains suggestions and instructions that are intended to help the trainer engage with external contributors to the training. This includes a simple tool to decide if and where external support may be needed, as well as templates that can be used to ensure smooth proceedings through structured preparation and quality control. The trainer or training institute may decide on their own discretion to follow these suggestions or pursue their own established procedures.

## Capacity assessment

A useful first step when considering the need for external support is to make existing capacities and expertise explicit. As the topics covered in the CSC project are complex and wide-ranging, it is likely that a single training institute or trainer cannot cover all aspects of a specific topic. In these cases, seeking external contribution from experts is very advisable. To support the decision-making process, a simple exercise can be used to identify potential focus areas and gaps. Adapted from the so-called SWOT analysis widely applied in the business world, the five-step SWOM Template helps to clearly identify one's own unique approach to the training and necessary measure to deliver a good training experience. The five steps of SWOM are:

1. A clear mission statement that includes the details of the training such as duration, target group and topic. (Mission statement)
2. Listing the trainers/training institutes specific expertise and eventual outstanding capacities (Strength)
3. Listing any gaps regarding to the specific training topic that cannot be covered by the trainers/training institutes already, from specific content to training facilitation matters. (Weaknesses)
4. Describing the unique and individual approach towards the training that only this particular trainer/training institute can deliver. (Opportunities)
5. Define the specific measures needed to deliver the training, such as approaching external experts to fill gaps, prepare exercises and inputs and so on. (Measures)

You can find a template for the SWOM assessment in Annex-1.

## Finding external experts

There is no one right way to find experts, but a few tricks can help to identify the best options. When building a shortlist, personal experience with the expert is always

advisable to assess their capacities beyond technical expertise (e.g. public speaking, facilitating exercises etc.). Thus, it is recommended to always look out for potential experts and speakers when attending events. Further, it is helpful to be clear for what role an external contribution is required. Habitually, most external contributions are thematic input on some expert topic, such as lectures or keynote speeches, but contributions can range from hosting to technical support to political traction. Based on the SWOM analysis, the right type of external support can be identified and sought out.

A list of archetypical roles and corresponding tasks to support the trainers' decision can be found in Annex-2.

## **Briefings**

A diligent briefing should be part of all training preparations, especially when external contributors are involved. At least one should be held in advance of the actual event, ideally a few days before. Besides getting to know everyone involved in the upcoming event, the briefing should serve to familiarize everyone with the tools and technology that will be applied, from projectors at in-person workshops sessions to the conferencing tool for online meetings. The sharing presentations, additional external software tools and each individual technology setup should be briefly tested out. An ideal outcome would be that external contributors could deliver their contribution without any assistance from the training host.

During any briefing, all participants should be guided through the entire agenda at once. The contents and purpose of each session should be made clear to everyone, so all contributors can understand their part and where to position their contribution. A simple template to define and verbalize the purpose of a session is provided in Annex-3. The development of an agenda is a standard procedure of every training or workshop. The agenda defines duration and order of sessions and can be send around to inform participants about the trainings' structure. For each session, it should always contain timeslots, a meaningful title and a brief content description. The trainer may follow the previously suggested agenda structure or devise a different structure. However, it is advised to first run through the previous steps and gain clarity about the purpose and technical and organizational requirements of each session.

In order to deliver a structured and targeted briefing, the provided roadbook template may be used. Such a document includes precise timeslots for all sessions, clearly assigned responsibilities and tasks, and brief description of the purpose and content of each session. Going through such a document point by point provides all contributors with a clear picture of what their tasks are, when to deliver them and what the others are doing. This is especially useful when working in a complex setting with many contributors and sessions, or with contributors from various locations not assembled in one place, e.g. in online trainings. Roadbooks or roadmaps include all relevant information to deliver the training. These documents can sometimes be mistaken for being simply extended agendas, but in fact contain a lot more information. They should include very detailed timestamps even within individual sessions; define who is responsible for which part, a description of session content, activities and tasks. They can even include text blocks that may simply be read out by the trainer or posted in a chatbox in virtual trainings. Such documents should be used when briefing external contributors, during test runs and are also helpful when discussing training design. Ideally, a roadbook should be detailed enough that someone unfamiliar with the training could still deliver sessions by simply following all instructions from the roadbook. It is up to the trainer to decide whether a roadbook should be used and how detailed it has to be. Fewer contributors and a shorter the training warrant a superficial and rough outline in the roadbook, while a more complex setup with a lot of different moderators involved over several days would require a more detailed and diligent roadbook to support coordination. The roadbook template is provided in Annex 4.

Lastly, the main host should inform all contributors about the intended mode of engagement with the training's participants, e.g. how will questions and answers be handled, what would be part of an interview if that is planned, will feedback be collected and how. External contributors should not be subjected to surprises vis-à-vis the audience.

## **Quality Control**

To ensure that the training achieves the desired outcome, especially with regards to external contributions, a quick and systematic quality control mechanism should be implemented. The included quick-fire report template provides an easy option to do this. It can easily be adapted to any topic, it takes less than 5 minutes to fill and can be applied across all different types of events, whether the trainer is host or participant. This type of report includes subjective assessments but will still prove useful since it is mostly applied for internal purposes. It also contains a section for external expert suggestions which can help to build an expert shortlist over time.

The other dimension of more objective quality control is structured participants' feedback. For tips and instructions please refer to the respective section at the end of this manual.

# Inaugural and Introduction Session

**Key content:**

- Need and purpose of the training
- Welcome and Introduction of participants
- Welcoming remarks from decision makers
- Expectation management

**Learning goals:**

- Be able to kick-off the workshop and inspire interest right from the beginning
- Get to know other participants

## Purpose of the training on Green Buildings for Indian Urban Local Bodies

**Input and instructions from the trainer:**

This first module should provide an entry point to the topic and illustrate the need for Green Buildings, as well as showcase some political backing for the issue. A context setting within the CSCAF should also be part of this module. The purpose of the training needs to be clarified, and the relevance of the issue for Indian ULB emphasized.

**Tip:** To generate interest and provide context, the latest figures and facts on urban green and climate change in general and from the target city/ region can be showcased. A few interesting numbers and components of green buildings can be found in Session 1 in the training manual.

**Optional aspects:**

It is helpful to have high-ranking officials inaugurate the training and give a few remarks at the beginning of the workshop. This could be someone from the MoHUA, GIZ or NIUA. In addition, to invite an official from the respective ULB to introduce the workshop and put it in a wider context, can emphasize the importance of the training issues. Alternatively, if the technical equipment allows for it, you may include a short video with introductory remarks.

**Material:** Presentation Session 1/ Training Manual Chapter 1 "Introduction"/ NIUA CSCAF Brochure

## Introduction of participants and expectation assessment

### **Input and instructions from the trainer:**

To get to know the audience and understand their expectation regarding the training is vital to make sure the workshop is a success for all participants. Since this training is set up as an online session, the easiest way to let participants introduce themselves is to ask them to write their full name, institution and location in the online conferencing tool (in the chat section, and if possible, also as their nametag). To assess expectations, the built-in polling function or mentimeter can be used for a quick round of questions.

At the end of the training, the trainer may refer to the initially collected expectations and check how they have been met or which other areas might be covered in a follow-up training.

**Tip:** A selection of expectation assessment questions is included in annex-5. In case you run the training as in-person workshop, the manual on Construction and Demolition Waste Management (CDWM) includes some good tips and practices how to assess expectations in offline formats.

**Material:** Polling tool (e.g. mentimeter.com), prepared questions, and flipchart to include some non-digital element.

# Session 1: Introduction and Thematic Background – Green Building

## Key content:

- Introduction to the principles of green buildings
- Overview of the status quo of green buildings in India
- Closer look at the CSCAF indicators regarding green buildings

## Learning goals:

- Gain theoretic background knowledge on the scope of the topic, and the aims and benefits of an integrated approach to Green Buildings
- Get to know different examples from various cities

## Input and instructions from the trainer:

This session should provide the base and common understanding for all participants. It should include a broad overview about what is understood by green buildings. The trainer should ensure that this session is not too narrow, e.g., focussed only on green roofs, but covers the various dimensions of green building, from individual components to integrated urban planning and policy. The trainer should explain the approach used to address the topic, e.g., from the building level to neighbourhood level approaches to the city level.

Further, the section should also include a closer look at the energy and green building indicators covered in the CSCAF, specifically indicators 5 "Promotion of Green Buildings" since that addresses key measures to assess the readiness of the city regarding the compliance procedures, penalty/ reward schemes and stakeholder co-operation for subsequent promotion of new and existing green and energy efficient buildings.

**Tip:** This is a good opportunity to present specific practical examples (i.e., from one Smart City) to illustrate successful possible implementation and generate an understanding of the different measures of green buildings and how they are integrated in the overall city planning.

A short interaction with quizzes and polling can encourage the participants to share their own understanding of green buildings and exchange experiences from their respective cities. Early interaction and energizer will lead to more lively participation throughout the training.

**Material:** Presentation Session 1/ Training Manual Session 1/ Training Manual "Introduction"/ NIUA CSCAF Brochure

## Pre-Assessment

### **Input and instructions from the trainer:**

To gain a better understanding of the participating cities, a short assessment of the status quo of green buildings in the cities can be conducted. The pre-assessment should be placed at the beginning of the sessions to know participants' topic understanding and awareness about city-level policies, regulations, incentives etc. This enables the trainer to identify the knowledge gap; hence training relevant to learners' needs can be delivered. As part of a summary of the session, cities can also share their good examples and experiences, discuss potential implementation strategies and current challenges.

**Tip:** This can be implemented by a short questionnaire sent out either before the workshop or through a polling during the session. Participant can be engaged to switch on their microphone and camera and present their example. Alternatively, the trainer can contact up to three participating cities in advance and invite them to present some key data and learnings in a short interview within that session.

The checklist in annex-5 can be used to allow participants to perform a quick self-assessment of their city in advance.

**Material:** Pre-assessment form, presentations from the cities, Annex-6

## Section 2: Building Approach

### Key content:

- Introduction to the building level dimension of green buildings
- Overview of the different building codes, labels and green buildings promotion schemes in India
- Exercise and presentation of tools to assess and develop sustainable and energy-efficient building designs
- Good practice examples from India

### Learning goals:

- Understand the various dimensions of green buildings at individual building scale
- Ability to facilitate the Eco-Niwas Samhita Online Tool

### Input and instructions from the trainer:

In this session, the political and regulatory framework of green building on the building level is introduced. The trainer should orient participants at the topics of codes and regulations, as they are an important regulatory measure to drive energy efficiency in the building sector. Moreover, building labelling and rating systems as well as possibilities of implementation should be presented and discussed. This information forms the knowledge base for further policy development and the enhancement of CSCAF performance. The trainer can additionally focus on the use of sustainable and green materials as well as low-tech solutions. Both, materials and design evaluation can then be applied and tested in the ECONIWAS online tool.

The application of different codes and measures can be best presented through examples within this session or as an extra block. The trainer should choose a concrete example that illustrates possibilities of action but also obstacles in implementation to discuss learnings and outcomes.

**Tip:** It is important to create a good balance between comprehensive information and time to process and apply them. The trainer can interrupt the lecture with small interactions or question rounds, where application challenges can be discussed. Short quizzes on the content can help to consolidate the information.

**Material:** Presentation Session 2/ Training Manual Session 2/ Eco-Niwas Website

## Exercise: Eco-Niwas Samhita Online Tool

### Input and instructions from the trainer:

The Eco-Niwas Samhita online tool provides practitioners and experts with different possibilities on designing and improving their green and energy efficient building. Based on the knowledge level of the participants, the trainer should present one tool in detail and give a step-by-step instruction how to apply the functions. The participants should be provided with a clear task to try out the functions within the training and present the results to the audience.

**Tip:** It is helpful to start with a simple and not too sophisticated tool and exercise to get familiar with the basic functions. The trainer should first show the different steps within the tool and then let participants work on their own and present their results. Participants should have enough time to ask questions and have their queries addressed before moving ahead. After the exercise, a link/reading should be provided where participants can repeat the task after the training to deepen the knowledge.

**Material:** Presentation Session 2/ Training Manual Session 2/ Eco-Niwas Website Online tool – Weblink/ Annex-7 Handout for the ENS Tool exercise

# Section 3:

## District Level

### Key content:

- Introduction to the district level dimension of green buildings
- Practical example of a district level solution for green buildings and energy-efficiency
- Exercise and/or presentation of a strategy for integrating green buildings in urban design competitions

### Learning goals:

- Participants understand the various dimensions of green buildings at district scale
- Participants are familiar with two approaches towards green buildings and energy-efficiency at district level

### Input and instructions from the trainer:

The session is split into two parts to illustrate different approaches towards green and sustainable buildings as well as energy-efficiency on the district level. First, the urban design competition serves as an instrument to integrate green buildings and sustainability aspects in neighbourhood design processes. The trainer should highlight the main objectives of co-creation, participatory development and the focus on implementation ability. To conduct a city-led design competition, the Streets 4 people project under Ministry of Housing and Urban Affairs provides good guidance and support for cities. The process steps of such a competition can be found in the Training Manual, chapter 3.

For energy efficiency at the neighbourhood level, the topic of district energy systems offers exciting approaches for cities. The trainer should explain the importance of district cooling against the background of current energy consumption and highlight both strengths and weaknesses. Even though these are rather sophisticated approaches, the topic has a lot of potential for energy saving. Examples and current projects on the topic should be presented as illustrations.

**Tip:** Trainers can check what projects related to green buildings at district level are currently being implemented in their region. Different approaches and examples always generate new ideas, and step-by-step instructions give participants an understanding of how these could be implemented in their cities.

**Material:** Presentation Session 3/ Training Manual Session 3/ Urban Design Competition Process Brochure<sup>1</sup>

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<sup>1</sup> <https://www.entekochi-competition.org/>

## Exercise: Urban Design Competition

### Input and instructions from the trainer:

A short exercise helps to ensure the transfer of what has been learned to the situations in the cities. The trainer should ask participants to take a paper and pen and develop a quick and intuitive concept for an Urban Design Competition focussing on Green Buildings in their cities. Guiding questions could be:

- Which components under green building would be your focus?
- What would be the scale of the competition?
- Identify the relevant stakeholders for conducting the competition in your city?

**Tip:** Let participants develop their own strategies and let them present their results. A brief discussion of some examples helps all participants to develop ideas and expand their findings.

**Material:** Pen and paper, prepared questions

# Section 4:

## City Level Approach

### Key content:

- Introduction to the district level dimension of green buildings
- Practical example of a district level solution for green buildings and energy-efficiency
- Exercise and/or presentation of a strategy for integrating green buildings in urban design competitions

### Learning goals:

- Participants understand the various dimensions of green buildings at district scale
- Participants are familiar with two approaches towards green buildings and energy-efficiency at district level

### Input and instructions from the trainer:

At the core of this session is the exercise to increase the performance score of the CSCAF indicator "Promotion of Green Buildings" by developing stakeholder and task mappings and forming green building cells and high-level committees. However, more context and explanation is required in order to make sense of this indicator and understand the different levels of performance. For the beginning, the trainer should therefore give a detailed overview over the measures under the CSCAF and how cities can assess their current status. Suggested strategies and key tasks provide roadmaps to increase the level and take first steps as an ULB.

Trainers shall provide a comprehensive understanding of key green building strategies and tasks to be undertaken by city ULBs officials and other relevant departments like urban development departments, development authorities etc. This helps cities to check their readiness in regard to green buildings promotion as well as provide guidance to city ULB officials to progress on various compliance measures to promote green buildings in their respective cities, increase their level and take first steps towards compliance of each measure of the indicator. The trainer should address the topics inclusion of the latest provisions of codes and green building rating in the general development control regulations (GDCR) / building bye-laws, functioning of green building cell at the urban local bodies' level, functioning of high-level committee, promotional and penalty schemes and stakeholder co-operation for subsequent promotion of new and existing green and energy efficient buildings.

The trainer should limit the presentation to maximum 30 minutes, keep the technical presentation crisp and to the point. Include good practice case studies on national and international level to provide participants with real time examples of best strategies and tasks for green buildings promotion. The trainer should also plan and structure a presentation script and speak confidently and clearly. The most important aspect is to engage with participants, invite them to share their experiences, reflect on how the lessons learnt from the training session relate to their day-to-day work or how they can improve their day-to-day work to include key tasks and strategies to fast-track green buildings promotion in their respective cities.

**Tip:** The trainer may include short polls on the status quo of the cities and focus on the most represented level.

**Material:** Presentation Session 4/ Training Manual Session 4/ CSCAF Brochure

## Exercise: MIRO – stakeholder mapping and tasks mapping

### Input and instructions from the trainer:

The exercise on the CSCAF Indicator 5 "Promotion of Green Buildings" includes four main activities. The aim is to make participants aware of key stakeholders as well as key tasks in regard to green building promotion and adoption at both, macro and micro level i.e. at the national, state and city level. Participants learn new software skills, to help them effectively facilitate online workshops and meetings where collaborative working is key.

The trainer should provide an online collaborative whiteboard platform (i.e. MIRO) to provide all cities the opportunity to work together and brainstorm using digital sticky notes. The trainer should also provide instructions on how to use the Miro whiteboard platform and conduct a short demo session at the beginning of the exercise to help participants navigate the board. The most important aspect to keep in mind is to make the exercise as interactive as possible by engaging with the participants, discussing the placement of tags/ sticky notes to achieve the exercise objectives and outcomes, and respecting the view and feedback of the other participants. Everyone should be invited to reflect on the interactive exercise and share their feedback based on their daily experiences and their respective city's readiness to promote green buildings activities and progress.

**Activity 1: Stakeholder Mapping:** In the beginning, participants are asked to list down all the relevant stakeholders that play a key role or can influence the promotion adoption, implementation, and enforcement of green buildings at the national, state and city level. As the second step, participants segregate the list of stakeholders into primary, secondary and tertiary stakeholders and arrange them in order of national, state and city level. The trainer could prepare a tag list with relevant stakeholders that participants can drag and drop during the exercise.

**Activity 2: Task Mapping:** In the second phase, participants should identify, map and prioritise key tasks as shown in activity 1. The trainer should provide tag lists with activities required for smooth promotion, adoption, implementation, enforcement, monitoring and verification of green buildings at the nation, state and city level. Participants choose task tags from the tags list and place them in the relevant priority level (1/2/3) boxes provided on the board for national, state & city level.

**Activity 3 and 4: Task Mapping for Green Building Cell & High-Level Committee:** The main objective of this task is to make participants aware of key tasks to be undertaken by a green building cell and a dedicated high-level committee, formed at the ULB level for promotion and adoption of green buildings at the smart city level. Activity 3 and 4 are designed as task mapping activities at micro level i.e. prioritizing tasks that need to be performed for smooth functioning of a high-level committee (green buildings) and a green building cell constituted at the urban local body.

In both activities, participants select the colour coded priority tags (priority level 1, 2 and 3) provided on the activity board and place them in the blank boxes adjacent to randomly placed green building promotion tasks. The idea is to priorities tasks as priority level 1, 2 and 3.

**Tip:** The exercise has to be properly designed beforehand, when using a tool such as the MIRO platform. Before conducting the exercise, participants need to be introduced to the usage and functions of the application. A buffer time slot has to be given to participants to test the platform before starting the exercise. A good way to do this is a small exercise in which participants have to create a virtual sticky note and place it in a certain section on the template that indicates their position in the ULB.

The MIRO board should include a short instruction for the different tasks, as it is always possible that some participants will join later on the board.

**Material:** Presentation Session 4/ Training Manual Session 4/ CSCAF Brochure/ Template for MIRO in Annex-8, Annex-9; SOP for using MIRO Whiteboard

## Five-step approach to greening Indian cities through efficient buildings

### Input and instructions from the trainer:

To go one step further towards an integrated urban planning with regards to green buildings and climate aspects, the trainer could introduce the World Resource Institutes 5-step approach towards greening Indian cities through efficient buildings. With this session, the trainer can encourage participants to develop green building policies based on the measures of the CSCAF, including all relevant stakeholders and tasks. The trainer may present the five-stage process for green building policies by urban local bodies, including commitment, assessment, development, implementation and monitoring and reporting. For later reference, the guidebook of the WRI can be shared to check instructions and actions to be taken.

**Tip:** At this point, it is important to build the bridge to what has been learned so far and develop implementation strategies including aspects of green buildings as well as performance of the CSCAF indicator.

**Material:** Presentation Session 4/ Training Manual Session 4/ CSCAF Brochure

# Session 5:

## Exchange Sessions

### Key content:

- Contribution from participants
- Direct exchange and interaction among participants

### Learning goals:

- Participants learn from each other, get insights from real, on the ground implementation and get inspiration from their peers

### Input and instructions from the trainer

The exchange sessions are dedicated to the direct exchange between training participants. The format and required effort may differ considerably between a session in an in-person setting compared to an online session. Regardless of the setup, the experience of participants should be front and centre of this type of session. The trainer should ensure that all participants engage actively and share their own professional experience and insights.

Contributions by participating cities may be collected in advance through very short PowerPoint presentations, less formal through a verbal input, or completely spontaneous at the day of the session itself. There are various options to deliver such an input. The most common is a traditional input delivered by one participant. This can then be discussed by the entire audience, e.g., in form of a case clinic.<sup>1</sup> Another option is to run an interview with one or several selected participants subsequent to a topical presentation, to discuss their real-world experience with the presented topic. A third option is to simply provide a guiding question to be discussed independently by the audience. It is up to the trainer to decide the most appropriate option for the respective context. The trainer should consider that a less structured approach to exchange sessions reduces the organisational effort, but increases the risk of the setup not working. In this situation, a plan B for the session should be ready at hand.

During exchange sessions, participants should ideally be separated into smaller groups of 4-5 people. This allows for more in-depth discussions and meaningful exchange in shorter amount of time. However, especially in case of online trainings, such a setup does not always work due to technical limitations or personal restraint by some participants. In this case, a discussion with the entire audience is preferable. To facilitate such smaller groups, many online conferencing tools allow to create breakout sessions where a smaller number of participants are assigned to a 'private-room', separate from the main session. These can be used for group exercises or to set up several topical sessions on parallel. This option is especially useful to enable direct interaction between participants, which is usually falling somewhat short in online trainings.

**Tip:** When the session is held across more than one region, and thus across various language regions, facilitation by an interpreter is recommended.

<sup>1</sup> [https://www.presencing.org/files/tools/PI\\_Tool\\_CaseClinic.pdf](https://www.presencing.org/files/tools/PI_Tool_CaseClinic.pdf)

# Section 6:

## Reflection, Outlook and Feedback

### Key content:

- Action to set up specific follow-up steps and set goals
- An informal exercise to set ambition
- Reflection exercise to consolidate the learnings from the training and provide feedback

### Learning goals:

- Be able to ensure follow-up and implementation by participants
- Facilitate reflection on the training, collect feedback and clearly formulate key take-aways

### Input and instructions from the trainer:

The last module of the training should be used to help participants reflect their learnings and to collect feedback to further improve future trainings. The trainer can use the suggested options described below, or any method the trainer is familiar with and prefers.

**Tip:** Frequently, participants develop more questions and insights over time and would like to share them with their colleagues. Direct exchange among participants can easily be facilitated by offering to keep the virtual room open for an additional 15-30 Minutes after the training has ended. Such sessions are generally perceived as extremely valuable and do not require any preparation from the trainer.

### Exercise: Quick Action Plan

#### Input and instructions from the trainer:

This is an easy to instruct exercise that participants can perform individually or in a group. It is vital to make sure that the exercise is taken seriously, and the template filled meticulously, despite its easy appearance. When done right, the template can cover all steps of the entire planning process and provide a blueprint for implementable projects.

**Tip:** Participants should fill out the template at the beginning of the training and revise it during the last session. This can provide helpful insights how the training has changed the approach towards green planning.

**Material:** Action-plan template Annex-10

# List of Annexure

**Annex-1: SWOM assessment**

**Annex-2: Roles and responsibilities**

**Annex-3: Session purpose and inputs**

**Annex-4: Roadbook Template**

**Annex-5: Expectation assessment questions**

**Annex-6: Pre-assessment**

**Annex-7: Handout for the ENS Tool exercise**

**Annex-8: MIRO exercise template**

**Annex-9: SOP for using MIRO Whiteboard**

**Annex-10: Action-plan template**

## Annex-1: SWOM assessment

<p><b>Strength</b></p> <p>What are all the strong aspects of your organization e.g. topic expertise, staff capacity, regional presence etc.</p>	<p><b>Weakness</b></p> <p>What is missing in your organization to cover the full range of tasks and all aspects of your topic? (e.g. technical infrastructure, insufficient knowledge of some specific but important aspect etc.)</p>
<p><b>Opportunities</b></p> <p>Describe the unique benefit your organisation offers with regards to the specific topic and what participants will gain from attending your event</p>	<p><b>Measures</b></p> <p>What do you need to do to leverage your strength, overcome your weakness and realize the opportunities? Name specific measures (e.g. Find a topic expert, secure high level keynote speaker, ensure working microphones for all team members)</p>
<p>Mission briefly describes the topic and purpose of the event (e.g. to set up a 3 day training course for ULBs to learn about green buildings)</p>	

## Annex-2: Roles and responsibilities

### HOSTING ROLES

Role	Who	Potential Tasks
Moderator	The moderator is the visible main host of the event. Ideally also the organizer in charge of all activities and the agenda	Overall guidance through the event Introduce external contributors Prepare roadbook Be able to jump in if technology fails Interview experts and pass on questions from the audience
Co-Moderator	See above, in setups with high participation numbers, one or more additional moderators might be required, especially if breakout groups are part of the event	Whatever is not handled by main moderator alone
Facilitator	Someone to take care of all practical activities outside the scope of simple moderation	Guiding through surveys Introducing tools (e.g. Miro boards) Leading energizer and warm-up sessions
Technical assistant	Someone well versed in the technologies applied throughout the event. Responsible for everything technical	In Online settings, be the main host Share presentations Share surveys, external apps like Miro etc. Help participants with technical issues Ensure participants are muted when required
Timekeeper	Someone designated to keep an eye out on the time to ensure the event is progressing according to schedule	Be mindful of time Remind speakers to finish their parts before time runs out
Note taker	Especially in setups where official reports or documentations are required, someone designated to take notes	Take notes in a template or free form Also capture participants inputs

## GUEST ROLES

Role	Who	Potential Tasks
Subject matter expert	Someone internal from your own organisation, or someone external in case they are more qualified or cover a topic outside your organisations scope of expertise	Give a lecture Answer questions Host an exercise
Keynote speaker	Someone either well regarded for political position or topical expertise. The keynote speaker should provide weight and relevance for your event	Provide an overview of a topic in general Shed light on specific aspects
Interviewee	Someone with practical experience or other relevant expertise. Sometimes, people are more comfortable with answering direct questions over giving a presentation	Answer questions from the moderator and the audience Comment on a previous input

## Annex-3: Session purpose and inputs

### Wish list of sessions and activities

What?	Why? (Outcome)	Output	Input
Please describe as precisely as possible what type of session you would like to have (e.g. expert input on general background, hands on exercise, direct exchange)	Please explain why you want to include this particular format in your training, what is the goal you plan to achieve with it	What specifically do you envision as the output? This can be a filled template, a survey, completing an exercise, some verbal feedback etc.	What is needed to realise to this session

## Annex 4 – Roadbook template

Day 0 (best to make one roadmap for each day)

**Session 0 – Session Title (Responsible Person/Organisation)** – Moderation - Person/Organisation (if very complex, consider making a roadbook for each session separately.  
Aim for 1 page max length)

**Timeslot 09.30 – 10.15**

No	Time	Duration	Who?	Topic/Title	Specification	To do
1	09.30 – 09.35 Put exact timeslots to help with orientation for all moderators	5 (In minutes to keep track of timing)	Assign person to lead this activity	Name element (e.g. Welcome, presentation A, Menti-meter Poll etc.)	Describe what will happen during this timeslot (e.g. Inform participants about topic, quiz them on learning, introduce expert, etc.)	List in chronological order what needs to happen (e.g. - Share screen with presentation - open mentimeter - start questionnaire Etc.)
2						
3						
...						
...						
...				Transition	Give a visual indication if you transition between sessions or you have to make major changes (e.g. hand over to other expert). Also, always consider this takes a little time.	
...						
...						

## Annex-5: Expectation assessment questions

### Selection of expectation assessment questions (all open questions)

1. What crosses your mind when you think of Green Buildings in your City?
2. How would you describe Green Buildings in your City?
3. What would you like to take away from this workshop?
4. If you are involved in a project dealing with Green Buildings, what exactly would you like to learn in this training?
5. Do you have further expectations?

## Annex-6: Pre-assessment

	Measures, Tools etc.	City a	City B			...
State Level	NBC adopted by state					
	ECBC adopted by state					
	ENS adopted by state					
	Supporting framework by state for NBC					
	Supporting framework by state for Green Building Cell					
	Supporting framework by state for State Design Agency (SDA)					
	Supporting framework by state for Quality Assurance QA					
	Third Party Assessment (TPA)					
	NBC adopted by ULB					
	ECBC adopted by ULB					
	ENS adopted by ULB					
	Integrated in Building Permits					
	ULB Green Cell exists					
	ULB Green Cell meetings					
City Level	GB Committee installed					
	Promotion					
	Incentives					
	Penalties					
	...					

## Annex-7: Handout for the ENS Tool exercise

**For trainers:** Please visit the Website [www.econiwass.com](http://www.econiwass.com) and demonstrate the most important features within the building performance analytics - basic tool.

Figure 1: Econiwass.com Website



1. Please select the state and city you would like to demonstrate.
2. Please select your building type:
3. Within the tool you can choose between three types of buildings: Stand-Alone, 3-Sides-Open, 2-Sides-Open
4. Insert information about the floor area and orientation
5. In the next step different EE measures (i.e. roof, walls, windows etc.) can be selected and adopted by drag and drop. Best combinations can be shown at the bottom left.

Figure 2: Basic tool, Eco-Niwas Phase I; econiwass.com



To enable participants to try out the tool themselves, the trainer should set a simple task and help with the implementation if necessary.

### Questions for participants:

Framework conditions: area per floor 100 m<sup>2</sup>

What is the difference in Energy saving in %, for a standalone, north facing building in Ahmedabad if the outer wall is having following properties?

1. AAC +Plaster
2. Brick+ 100 mm Insulation

→ **Answer: 1) 10%, 2) 17%**

What is the expected energy saving per year in kWh, for a standalone, north facing building in Ahmedabad, if the roof has

1. 100 mm Insulation

→ **Answer: 4800 kwh**

## Annex-8: MIRO exercise template

## Annex-9: SOP for using MIRO Whiteboard

### SOP for using Miro Whiteboard

for

Day 3, Session 4a: City level approach - Exercise

#### Desktop Users

Access the Miro Whiteboard here and do compulsory Sign Up with **Your Name, Email Address and Password.**

<https://miro.com/>

#### Android Phone Users

Download the Miro Whiteboard app from Google Play and do compulsory Sign Up with **Your Name, Email Address and Password.**

<https://play.google.com/store/apps/details?id=com.realtimeboard>

#### iPhone Users

Download the Miro Whiteboard app from Google Play and do compulsory Sign Up with **Your Name, Email Address and Password.**

<https://apps.apple.com/us/app/miro-collaborative-whiteboard/id1180074773>

**Alternately, use below mentioned link to access Miro Whiteboard Apps**

<https://miro.com/apps/>

### Annex-10: Action-plan template

Step	What exactly should be done	Who is responsible	Who else is involved	How to get started	When	Remarks, things to be considered
	Describe as detailed as possible	Name the most important decision maker	Name other important stakeholders	Define your first 1-3 steps to get started	Choose a specific date	Describe potential obstacles and opportunities
1						
2						
3						
4						
5						
6						
...						



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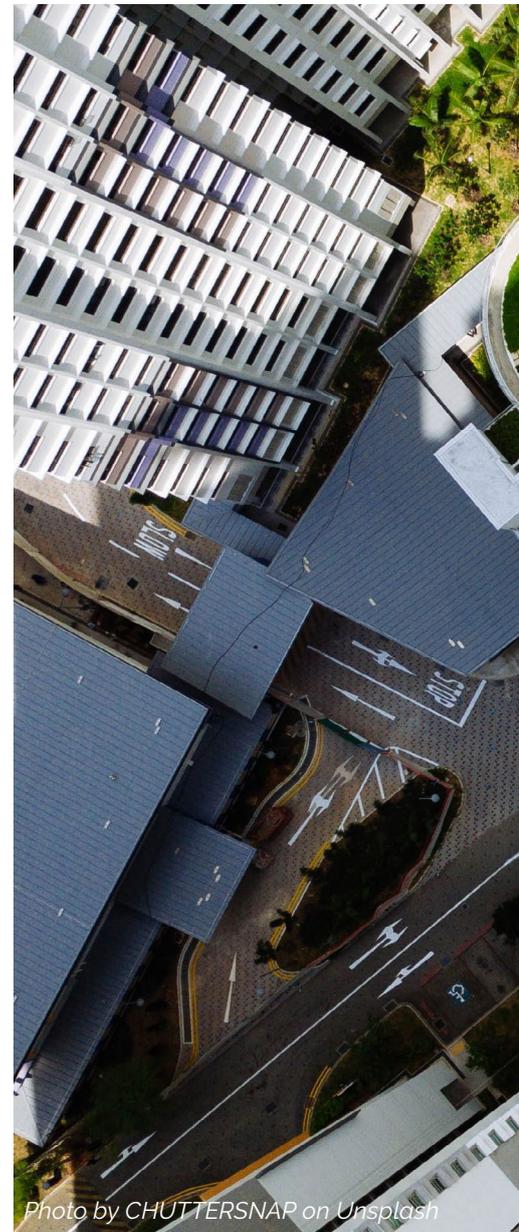
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