

Report on curricula-building workshop results.





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Author:	Roger Roca Vallejo, Priscila Franco Steier - ICLEI Europe	
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1. Introduction

This report falls under Task 1.3(b) which supports the creation of NBS capacity-building programmes and skill-building curricula. Its deliverable D1.6 aims to assist educators and professional organisations in formulating programs and curricula for the training of NBS specialists, enhancing proficiency in various NBS-related domains such as citizen involvement, technical and knowledge-oriented aspects, governance, and financing. In total three "Curricula Changing Workshops" took place as part of side sessions during CONEXUS annual assemblies in both CELAC and EU cities. The workshops followed a rationale of exploring the perspectives from students (workshop one), professionals (workshop one and two), higher education providers (workshop two), and job providers (workshop three). The key outcomes of these workshops framed the recommendations for NBS professional educational curricula and policy that opened this deliverable.

2. Bogotá Conference

This one-hour workshop took place during the Bogota conference on the 1st of December of 2021. With the topic **"Screening professional skill gaps related to NBS in the environmental, social/cultural and economic professional fields"**, the workshop was developed and moderated by the University of Sheffield and ICLEI Europe. The goal of the workshop was to screen together with project partners professional skill gaps related to NBS in three professional fields environmental; social/cultural; and economic, considering 6 of the societal challenges mentioned in the NBS Indicator Handbook: Climate Resilience, Green Space Management, Participatory planning and Governance, Social Justice and Cohesion, Health and Wellbeing, New Economic Opportunities and Green Jobs.

It builds on top of the results obtained in another two hours long online workshop "Studienstiftung des deutschen Volkes e.V – 'Sustainable Europe' workshop" that took place online on the 15th of September of 2021. The participants of the workshop were 46 outstanding undergraduate students granted by the scholarship agency Studienstiftung and the goal was to discuss how young people and early career researchers and professionals perceive global and societal challenges in relation to NBS, and how to bring this perspective into the conception, framing and development of educational and capacity-building programmes. The workshop addressed specific target audiences: NBS specialists and students / young professionals. All the data collected were analysed through content analysis.

In general, the results showed a need for:

- \circ $\,$ A more inclusive and diverse conception of NBS.
- Transdisciplinarity and concepts translation according to the different contexts to design solutions adapted to local ecological, economic and social conditions.
- \circ Capacity to communicate and advocate for NBS with different stakeholders.
- o NBS evidence and its valuation against Grey Infrastructure.
- o Data modeling skills.
- Context-based technical training, guiding materials, and evaluation tools addressing local communities to prompt NBS stewardship.
- Interdisciplinariry was an important topic in the discussions of these workshops, that is why it was decided to have a workshop around it during the Sao Paulo Conference.

3. Sao Paulo Conference

The 1,5 hours Curricula Changing Workshop held in Sao Paulo was organised and moderated by ICLEI, and had two objectives: (i) present and discuss the preliminary results of the CONEXUS NBS Professional Skill Gaps Report (Deliverable 1.5), and (ii) debate on the challenges and advantages of inter and transdisciplinary NBS activities in higher education programs. To contextualise the debate, two consortium partners - TUM and FAUUSP, representing higher education organisations in Europe and Latin America, shared their experience with inter and transdisciplinary NBS education initiatives, as follows:

"Cross-disciplinary experiences empowering education and training for the built environment" - Denise Duarte FAUUSP

"Opportunities and challenges of transdisciplinarity for NBS education and training" Prof. Dr. Stephan Pauleit - Technical University of Munich (TUM)

Following the keynotes, a plenary discussion was conducted on how to implement transversal curricula in higher education and professional training related to NBS. The main key messages from this workshop were:

- Interdisciplinarity requires an important investment in time, money and space.. However, it pays
 off since it provides key competences for students and young researchers to cope with complex
 challenges of society and environment.
- Understanding the spectrum of diverse forms of interdisciplinarity is a basic prerequisite for using them meaningfully.
- Education strategies and formats that facilitate interdisciplinary learning are needed. Participants mentioned selective (workshops, summer school, symposia) and continuous formats (seminars, study-related threads with certificate completion) as potential venues to promote interdisciplinarity.
- Cultural and social dimensions still need to be better integrated in interdisciplinary research/education.
- Real life projects are essential as a platform for knowledge integration and cross-disciplinary education and training. An integrated approach, when linked with practical application, allows for the customization of solutions to meet the specific needs of Nature-Based Solutions (NBS) practitioners.
- Partnerships with city stakeholders create opportunities to incorporate NBS into the planning processes of municipalities and regional governments, facilitating the mainstreaming of these solutions.

Linked to all of this, the idea of having an NBS Professional master's focusing on practitioners was mentioned. In terms of next steps, the participants indicated the need to take curricula changing discussion closer to professional training/capacity building. This was addressed during Turin's Conference.

4. Turin Conference

This two hours workshop took place during the Turin Conference on the 26th of October of 2023. It was developed and moderated by the University of Sheffield and ICLEI Europe. Tapping on the diversity of organisations engaged in CONEXUS consortium, this third Curricula Changing Workshop simulated what are the required qualifications of NBS professionals under different scenarios from the market perspective. The goal of the workshop was to identify required qualifications of NBS professionals of the future to provide insights for rethinking professional educational curricula in different fields and levels of education. The results from each of the scenarios were quite diverse and tried to respond to the questions of educational background, experience, technical skills, and competences the ideal candidate should possess for the position. Below is a summary of the key messages:

1. Scenario I: International organisation – advocacy for integrating NBS into cross-sector policies.

In this case, the open application was for a senior level position and therefore at least 10 years working experience on the field was needed. From the technical skills point of view, having international policy experience was considered a requirement by all the participants. A good understanding of the NBS concept, knowledge of multiple languages, and having worked with a multiple variety of stakeholders were also highlighted as desirable elements. Experience in grant and project writing, cross-disciplinary working style and right-based approach proven experience were other requested factors. In terms of competences, having a person with empathy and great negotiation and facilitation skills and strategic thinking was stressed.

2. Grass-root organisation scenario: grass-root organisation targeting/or run by indigenous people or with traditional/local skills.

In this scenario, they were looking for an applicant that understands the dynamics of the community and the territory. Being part of the community was an asset, although not a requirement Since the NBS term might be quite novel and confusing in some regional and local contexts, the applicant should try to be flexible and sometimes avoid the term and use other familiar vocabulary. The applicant should be aware that the power of the decision process should always remain in the community. Experience in co-creation processes, right-based approaches, and land tenure law was considered important. In terms of skills, openness to listen, ability to conceptualise necessities, positive attitude and motivation were pointed as desirable. Some interesting open questions came up such as the need of an NBS expert or just someone eager to learn and with basic related knowledge in this field.

 NBE/Private Sector scenario: Nature-based enterprise implementing NbS infrastructure type 3 on the ground.

In this group, the open job application was for a senior level as well but emphasising that the applicant should have 3-5 years of recent experience in the field. In relation to educational background, landscape architect, environmental engineer, forester, agronomist, or urban ecologist were mentioned. In terms of technical skills: digital skills like GIS, AI, BIM, regional ecosystems knowledge, project management, circular thinking, technical drawings, and calculations, applied physics, budget management, public processes experience, pest management experience were mentioned. In relation to soft skills, good communication skills, experience working with a variety of target groups, leadership, team player, negotiation skills to deal with ego issues, ambition and motivation, system thinking and vision integration, continuous learning, and capacity to face complex issues, were mentioned.

4. Local government scenario: consultancy service to develop a NBS plan.

In this case, the application was for a professional with a Master or equivalent title and several years of related experience. In terms of competences, it was identified: team player, empathy, processes coordination, flexibility, and adaptability. As technical skills it was highlighted: sound knowledge on policy analysis, planning, nature finance, GIS, and design). The professional should be equipped to advocate for NBS multifunctional benefits, and able to translate theory into practice.

To close the workshop, the participants were asked to shortly respond to the Slido question: What needs to be improved in higher education curricula (both syllabus and pedagogic approaches)?

Participants highlighted again the need of soft skills training, specifically those related to negotiation, conflict solving and interpersonal communication. Transdisciplinary was mentioned several times as well. Finally, knowledge in participatory approaches, especially those related to marginalised groups and a basic understanding of NBS planning and design processes were suggested as important elements.

The key messages from this workshop are listed below:

- Technical Skills: Each scenario emphasises the importance of technical skills related to the specific field. Skills like GIS, project management, ecosystem knowledge, and policy analysis are mentioned in multiple scenarios, highlighting their importance across different contexts.
- Soft Skills and Competencies: Soft skills such as communication, leadership, empathy, negotiation, and flexibility are highly valued across all scenarios. These skills are essential for effective collaboration, community engagement, and successful implementation of NBS projects.
- Understanding of NBS Concepts: While not explicitly stated in all scenarios, a general understanding of Nature-Based Solutions (NBS) concepts is implied or directly mentioned as desirable. This understanding helps applicants navigate the complexities of integrating NBS into various sectors and communities.
- Community Engagement and Empowerment: Whether it's advocating for the inclusion of NBS in cross-sector policies or working directly with indigenous communities, all scenarios highlight the importance of community engagement and empowerment. Understanding community dynamics, listening skills, and a right-based approach are consistently mentioned.
- Adaptability and Continuous Learning: The need for adaptability, openness to learning, and continuous improvement is evident across all scenarios. Given the evolving nature of NBS and the diverse contexts in which it operates, applicants are expected to be flexible and committed to ongoing learning and development.

Appendices

Agenda and MURAL Results Studienstiftung des deutschen Volkes e.V – 'Sustainable Europe' workshop

EVENT AGENDA



Duration: 1:30 hour

a) welcome to Lisbon - short introduction to its green infrastructure, ecosystem services and nature-based solutions (**Duarte Mata, CML**);

(b) why and what are NBS - and EC policy agenda (Tiago Freitas, EC);

(c) brief introduction of Conexus (**Tom Wild, University of Sheffield**) and of curricula building task (**Daniela Rizzi, ICLEI**);

(d) introduction to the breakouts rooms (Roger Roja Vallejo, ICLEI) (split the larger group and explain how Miro works, 5')

(e) 4 Breakout Sessions (30') - social, cultural, environmental, economic aspects

(f) Plenary Room: Key messages from breakout rooms and questions (15')

(g) Closing remarks and announcements (10')



Screenplay and MURAL Results of the Bogota Workshop

Date and time:

Wednesday 1 December 2021, 16:55 CET - 18:00 CET (12:55 BRT - 14:00 CET)

Venue:

Online via Zoom.

Registration required: https://forms.gle/U576JWHMP1TusJ4h7

Background:

CONEXUS context for the workshop: Part of Task 1.3 (a) (ICLEI with OPPLA supported by FAO/Lali).

As part of the Bogotá Workshop (a consortium-internal exchange) task 1.3(a) will focus on the screening of professional skill gaps on NBS to give task leaders and partners a basis for the design of a skill gap questionnaire.

The answers of the questionnaire will feed into a deliverable (Report of Skill Gaps), due in May 2022.

Dynamic of the workshop (pressure-cooker approach and three breakout rooms):

The pressure-cooker workshop format allows for fast-paced interactions and discussions around topics that participants bring with them around guided questions. It aims to ensure that interactions are timely and cover different topics.

The registrants for the Bogotá Conference will be split in 3 breakout rooms, which will run in three different languages (English, Spanish and Portuguese). The number of participants of each room will have a balance, as much as possible, considering people's language proficiency.

Goals of the workshop:

- To screen with CONEXUS partners the professional skill gaps related to NBS in three professional fields (environmental; social/cultural; and economic).
- Moderate discussions around skill gaps considering 6 of the societal challenges mentioned in the <u>NBS</u> <u>Indicator Handbook</u>.
- The societal challenges we will work with are: Climate Resilience, Green Space Management, Participatory planning and Governance, Social Justice and Cohesion, Health and Wellbeing, New Economic Opportunities and Green Jobs.

Outcomes from the workshop:

• Identification of professional skill gaps on NBS to feed into the design of a questionnaire. The task leader will reach out to other consortia and professional bodies with the questionnaire to produce a Report on Professional NBS Skill Gaps, due in May 2022.

Screenplay

DURATION	TIME	SESSION TITLE	ACTIVITY / MODERATOR
15'	16.55	Welcome words, Introduction, Objectives, Mural rules	PowerPoint Presentation (Daniela) Explain the Mural board dynamics to all registrants (Roger) Paste links of the three different MURAL boards on the chat and wait till all participants have arrived to each Breakout Room (Roger)
8'	17.10	Split up in Breakout Rooms	 Once inside of the BR explain the timer function (Each moderator: Roger, Daniela and Roberto) Share your screen to show your MURAL Click the record icon Process: All together we will cover skill gaps related to 6 topics We will have 7 minutes to discuss each topic. A timer will indicate to us when the time has finished and we need to move to the next topic. Respect the time. Mention that there is an option Other in case people want to add input at any time about a topic not included in the board. Participants are welcome (and encouraged) to explain more in detail their sticky notes while the rest listens to and continues adding input Respect the color code of the stickers Paste the stickers in their respective field (economic, environment, social) Make them smaller or bigger if needed
7'	17.18	Discussion of the topic Climate resilience	Start the timer for 7' (Moderator)
7'	17.25	Discussion of the topic Green Space Management	Start the timer for 7' (Moderator)
7'	17.32	Discussion of the topic Participatory planning and Governance	Start the timer for 7' (Moderator)

7'	17.39	Discussion of the topic Social Justice and Cohesion	Start the timer for 7' (Moderator)
7'	17.46	Discussion of the topic Health and Wellbeing	Start the timer for 7' (Moderator)
7'	17.53	Discussion of the topic New economic opportunities and Green Jobs	Start the timer for 7' (Moderator)
0'	18.00	Thank you all	Each moderator thanks the attendees for their engagement (each moderator)





Agenda and Presentation of the Sao Paulo Workshop

Dynamics of the Workshop

- Presentation of the preliminary results of the Skills Gap Report
- Presentations from TUM & USP
- After the presentations there will be 2 rounds of discussion with the panelists and the participants
- Participants will be <u>have</u> the opportunity to add their recommendations to address NBS in higher education programmes with post-<u>its</u> during the panelist discussion and during the participants discussion
- Mentimeter to collect final impressions







NbS Professional Skill Gaps

Emerging lessons

Priscila Franco Steier ICLEI Europe São Paulo, 26 of <u>May.</u> 2022



the European Union's Horizon 2020 research and innovation programme under grant agreement no. 867564

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Prof. Dr. Stephan Pauleit Chair for Strategic Landscape Planning and Management -TUM

Transdisciplinary research and interdisciplinary education: advantages and challenges in NbS higher education.

Prof. Dra. Denise Duarte

Department of Architecture Technology - FAU/USP

Cross-sector collaboration and students protagonism: impacts on NbS research & education.

Screenplay, Draft Scenarios and Results of the Turin Workshop

Date and time:

26th of October

Venue:

Torino Urban Lab, piazza Palazzo di Città 8f

Topic: NbS Professionals of the future - simulating market needs in different scenarios

Background:

This Curricula-Changing Workshop is the last one of a series of three workshops which followed the rationale of exploring: (i) students perspectives); (ii) professionals perspectives; and (iii) market perspectives. Tapping on the diversity of organizations engaged in CONEXUS consortium, this third Curricula Changing Workshop will simulate what are the required qualifications of NBS professionals under different scenarios from the market perspective. It is relevant to mention that "knowledge and interpretation of nature by indigenous people, their cosmovision and local culture" has central importance on this task especially with regards to the CELAC context and was not yet approached by the previous Curricula-Changing Workshops. For this reason, the workshop will be framed by different scenarios, one of which simulating a CELAC setting addressing indigenous people.

Goals of the workshop:

- Simulate market needs in different setting of Europe and Latin America;
- Based on the simulation, identify required qualifications of NBS professionals of the future;
- Provide insights for outputs for proposing the revision of professional educational curricula in different fields and levels of education.

Dynamic of the interactive workshop:

The workshop will be divided in three parts: (i) set a hypothetical scenario of a NbS organization or choose among one of the template; (ii) propose a job description for hiring a NbS professional under the chosen scenario; (iii) plenary discussion on each of the scenarios/job descriptions.

• A template form covering parts I and II will be provided.

Expected outcomes from the workshop:

- The outputs of this internal workshop will inform the Report on Curricula-building Workshops (D.1.6).
- Support recommendations for NBS capacity-building programmes and skill-building curricula in higher education and Continued Professional Development (CPD) programs, by exploring market needs for future NBS professionals.

Screenplay (2 hours)

DURATION	SESSION TITLE	ACTIVITY / MODERATOR
10'	Welcome words, Introduction, Objectives	Distributing the template and presenting the different hypothetical organizations
		Priscila & Roger
5′	Ice-breaker: Mentimeter to know who is in the room	Name your hypothetical organization and indicate its sector. Participants are welcome to suggest sectors other than the ones on the template.
		Roger
15'	Part I: Description of organization profile and	Exercise to be done by participants
	setting (small group exercise)	Support - Priscila, Roger and USFD
20'	Part II: Simulating market needs (small group exercise)	Participants should provide a job description related to the organization profile and the context set.
		Support - Priscila, Roger and USFD
10'	Break	
30′	Part III: Sharing insights of the exercises (plenary discussion)	Guiding questions:
		a) What are the different scenarios presented?
		b) Do they cover a wide range of plausible futures in both Latin America and Europe?
		c) How could the syllabus be improved to support the development of future NbS professionals and careers?
		d) Which pedagogical approaches would be beneficial for the development of future NbS professionals?
		Support - Priscila, Roger and USFD
10'	Mentimeter (individual	Guiding Questions:
	exercise)	a) In your opinion, what needs to be improved in higher education curricula (both syllabus and pedagogic approaches)?
		b) What needs to be improved in continuous professional development curricula (both syllabus and pedagogic approaches)? Support - Priscila, Roger and USFD

20′	Wrapping-up	workshop	Summarize the discussion and communicate take away
	results		messages
			Priscila

Topic: NbS Professionals of the future - simulating market needs under different scenarios

Background:

This Curricula-Changing Workshop is the last one of a series of three workshops held as part of T.1.3.b. Following the rational of exploring (i) students perspectives); (ii) professionals perspectives; and (iii) market perspectives and tapping into the diversity of organizations engaged in CONEXUS consortium, this third Curricula-Changing Workshop will simulate from the market perspective what are the required qualifications of NBS professionals under different scenarios. It is relevant to mention that "knowledge and interpretation of nature by indigenous peoples, their cosmovision and local culture" has central importance on this task especially with regards to the CELAC context and was not yet approached by the previous Curricula-Changing Workshops. For this reason, the workshop will be framed by different scenarios, one of which simulating a CELAC setting addressing indigenous peoples.

DRAFT FORM

Part one: Scenarios

Below you will find a few template scenarios setting a context upon which you will propose a Job Description. Please feel free to shape your own scenario or select one from the templates below.

I. Grass-root organization scenario: grass-root organization targeting/or run by indigenous people or with traditional/local skills.

Your company is a grass-root organization working with on the ground implementation of Nature-based solutions. You are hiring professionals to implement a NbS project in a peri-urban area inhabited by displaced indigenous people in a Latin America city. This is a partnership with the local community that has been seeking funds to implement their projects.

II. NBE/Private Sector scenario: Nature-based enterprise implementing NbS infrastructure type 3 on the ground

Your business, specialized in implementation and maintenance of type 3 NBS, is hiring professionals to design and install NbS for disaster risk reduction and improvement of life and well-being.

III. Local government scenario: consultancy service to develop a NBS plan

The local government of a municipality decides to hire a consultancy service to develop a plan that focuses on integrating Nature-based Solutions. The consultancy works closely with local experts, community members, and relevant stakeholders to assess the current state of the municipality and identify ways to incorporate NbS such as green infrastructure, urban parks and sustainable drainage systems to enhance resilience, biodiversity, and overall quality of life in the area. Describe the desired profile(s) of the consultancy team to be hired.

IV. International organization: advocacy for integrating NBS into policy

An international organization is seeking a professional advocate to promote the integration of Naturebased Solutions and biodiversity into policies worldwide. This individual will engage with local, national, regional, and global stakeholders to encourage proactive actions that prioritize sustainable practices and protect ecosystems. Considering the disputes around the concept and operationalisation of NbS, this organization seeks to bring environmental justice and rights-based approach to the center of the debate. The organization has a large traction and network with major indigenous people organized groups and social movements.

Part II: Job description

Considering the scenario that you shaped or chose, please provide a short job advertisement specifying job level as well as desired education background, previous experience, required skills and competences. See below a proposed structure to support you.

Job description

- 1. Job location:
- 2. Job level (closed answers: entry-level, intermediate or experienced, first-level management, middle management, executive or senior management):
- 3. Your mission (Describe briefly the setting and the role of the position):
- 4. Profile (describe the desired profile):
- Qualifications: (i) select the main categories of education level and background, and technical/soft skills, (ii) describe the desired education background, as well as relevant technical skills and competences: Proposed categories



<u>Grass-root organization scenario: grass-root organization targeting/or run by indigenous people or with</u> <u>traditional/local skills.</u>

GRASS ROOT LOCATION - Belein de les Sont AR JOIN US IN THIS ENERVOR TOUREDS TO SUPPORT OF COMMUNITY TO THRIVE TOGETHOR WITH NARKE WE ARE NATURE! Skill 3: - TRANSLATE COMMUNITY NEEDS TO FEASIBLE & FUNDABLE NERDSECTS / WIRITING PROPOSALS - OPEN MINDED / PASSIONATED / POSITIVE - BX COMMUNICATION SKILLS - EXPERIENCE ON FUNDING RAISING OFFER .. TRAIN FOR WCAL COMMUNI AD VANTAGE: FROM THE COMMUNITY 1 PROBLEMS: FUNDING, LEGAR ISSUES, REPRESENTATION, SUPPORT FROM PUBLIC SELPE

NBE/Private Sector scenario: Nature-based enterprise implementing NbS infrastructure type 3 on the

ground

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Local government scenario: consultancy service to develop a NBS plan

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YOU ARE OUR ADVOLATE FOR A NEW "NATURE-BASES SOMETHINS PLANNING PROFILE DYNAMIL MULTIDISC. FRANE WORKING IN A work, COORDWATT you will PLANNING TEAM 'NBS' NEW THE DEVELOPMENT OF A FRAMEWORK FOR THE CITY . A FLEXIBLE + ADAPTABLE TEAM PLAYER, YOU MAVE EXCELLENT PRIORITISATION, COURDINATION + COMMS. SKILLS. YOU WILL BE ABLE TO APALI THESE SKILLS PRAGMATICALLY WORKING WITH CONSULTANTS AND COLLEAGUES, USING ALSO YOUR TECH. UNDERSTANDING OF GIS + PLANNING + DESIGN/PAPSENTATION, YOU'LL USE YOUR POLITONL AWARENESS + EXPERIENCE EL PLANNING AS OWR KEY DEPT FILE + HOME] ASVOLATE AT LEAST FOR NES EX BERLENCE MASTERS וא נידי 'X' ye and MISSION 100 sente detives 10 NBS ADVIDIATE TO SELL TECH SHILL IN C-PLAN NAS MULTIF. + the con RENEFITS - DEXEN and BAT NOT A PULL + PRIORITISE Y TEAM SPEAMUST FWIRENES FEEX PRIFLUE

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Turin Workshop Working groups photos











Urban nature connects us Conectados por la naturaleza urbana Conectados pela natureza urbana



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