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nexus



# WEF Nexus Trainer's Manual

A Training toolkit for operationalising the WEF Nexus  
concept on project and governance level.

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WEF Nexus Trainer's Manual

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# Table of contents

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<b>List of abbreviations and acronyms .....</b>	<b>3</b>
<b>1 Introduction.....</b>	<b>4</b>
1.1 Background and objectives .....	4
1.2 Target group.....	4
1.3 Human Capacity Development needs assessment.....	4
<b>2 Structure and approach .....</b>	<b>6</b>
2.1 Modular training concept.....	6
2.2 WEF Nexus training materials.....	7
<b>3 Optional training durations and course planner.....</b>	<b>9</b>
<b>4 Didactic principles and hints for facilitation .....</b>	<b>11</b>
4.1 Introduction .....	11
4.2 Gender sensitivity.....	11
4.3 Check-ins and ice-breaker .....	11
4.4 Energizers.....	13
4.5 Interactive elements and exercises .....	14
4.6 Do's and don'ts .....	16
4.7 Preparation and troubleshooting for trainings .....	18
<b>5 Training Modules .....</b>	<b>20</b>
5.1 Module I - Introduction to the Water-Energy-Food Security Nexus .....	20
5.1.1 Chapter 1.1: Introduction to the Water-Energy-Food Security Nexus... ..	20
5.1.2 Chapter 1.2: Water-Energy-Food Interactions .....	25
5.1.3 Chapter 1.3: Water-Energy-Food Nexus Solutions.....	27
5.2 Module II - Institutions, processes and tools for institutionalizing the WEF Nexus.....	30
5.2.1 Chapter 2.1: Assessing the Nexus – Assessment tools for decision support	30
5.2.2 Chapter 2.2: Governing the Nexus .....	34
5.2.3 Chapter 2.3: Cross-sectoral investment planning and financing.....	39
5.3 Module III – Case Studies .....	46
<b>6 Annex.....</b>	<b>50</b>
Annex 1 - Preparatory training needs assessment questionnaire .....	50
Annex 2 - Evaluation questionnaire .....	53
Annex 3 - Exercise Handouts.....	58
Annex 4 – Exemplary Agendas.....	84

## List of abbreviations and acronyms

BMZ	German Federal Ministry for Economic Cooperation and Development
CaIEPA	California Environmental Protection Agency
CDKN	Climate and Development Knowledge Network
CFU	Climate Funds Update
CLEWs	Climate, Land use, Energy and Water Systems
CLiFIT	Climate Finance Readiness Training
DFFE	Department of Forestry, Fisheries and the Environment:
DIE	German Development Institute
EbA	Ecosystem-based Adaptation
EU	European Union
FAO	Food and Agriculture Organization
FAQ	Frequently Asked Questions
GCF	Green Climate Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GNS	Global Nexus Secretariat
GWSP	Global Water Security and Sanitation Partnership
HCD	Human Capacity Development
IEA	International Energy Agency
IEEFA	Institute for Energy Economics and Financial Analysis
IFAD	International Fund for Agricultural Development
IWRM	Integrated water resources management
LAC	Latin America and the Caribbean
LAS	League of Arab States
MENA	Middle East and Northern Africa
NAP	National Adaptation Plan
NGO	Non-Governmental Organization



NRD	Nexus Regional Dialogues
OECD	Organisation for Economic Co-operation and Development
Q&A	Question and Answer
SADC	Southern Africa Development Community
SDGs	Sustainable Development Goals
SEI	Stockholm Environment Institute
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations International Children's Emergency Fund
UNU	United Nations University
WBA	World Bioenergy Association
WEF	Water, energy, food
WFP	World Food Programme
WHO	World Health Organization
WWAP UNESCO	World Water Assessment Programme of the United Nations Educational, Scientific and Cultural Organization
WWF	World Wide Fund for Nature



# 1 Introduction

## 1.1 Background and objectives

The Nexus Regional Dialogues programme (NRD), which is jointly funded by the European Commission and the German Federal Ministry for Economic Cooperation and Development (BMZ) has entered its 2<sup>nd</sup> phase in June 2020. The overall objective of this 2<sup>nd</sup> phase is to “institutionalise the WEF Nexus approach in national and regional governance structures and investment decisions for water, energy and food security”. The NRD works towards this goal through knowledge dissemination, networking and competence development. The WEF Nexus training materials contribute to **competence development**, but can also support **networking activities** when used as an introduction to the topic in various events.

This training on WEF Nexus specifically contributes to two specific objectives of the NRD programme:

- Specific Objective 1: Increased application of the WEF Nexus approach in planning, policy-making and implementation in countries belonging to the five target regions of the NRD programme.
- Specific Objective 2: Increased interest from public and private investors (e.g. financial institutions, private sector, multilateral and bilateral organisations, national treasuries) for projects following the WEF Nexus approach.

The NRD programme has already carried out trainings on the water, energy and food nexus, as well as on case studies in 2018, 2019 and 2020. However, a lack of specific and methodological knowledge of the WEF Nexus and its added value, as well as on how to include the concept in policy and planning processes has still been observed with government officials, policy makers, and investors. Therefore, the present WEF Nexus training materials were developed after carrying out a Human Capacity Development (HCD) needs assessment that shed light on the persisting challenges in implementing the WEF Nexus in the five target regions of the NRD programme, and on existing entry or anchor points for the WEF Nexus approach in policy and planning processes. Results of this HCD needs assessment are summarized below.

## 1.2 Target group

The target group of this WEF Nexus training is broad. While on the training primarily targets policy planning officers, public and private project developers, as well as financial institutions and other NRD Nexus project beneficiaries, it also includes other interested stakeholders, such as other project planners, academia, NGOs, etc. A modular approach of the training (see p. 6) enables to address these different target groups with appropriate training contents and formats.

## 1.3 Human Capacity Development needs assessment

The training materials were developed based on a Human Capacity Development (HCD) needs assessment. The HCD needs assessment report outlines the status-quo on WEF knowledge and experiences in each of the five NRD regions, highlighting knowledge and capacity gaps, and making recommendations on how to strengthen capacities.

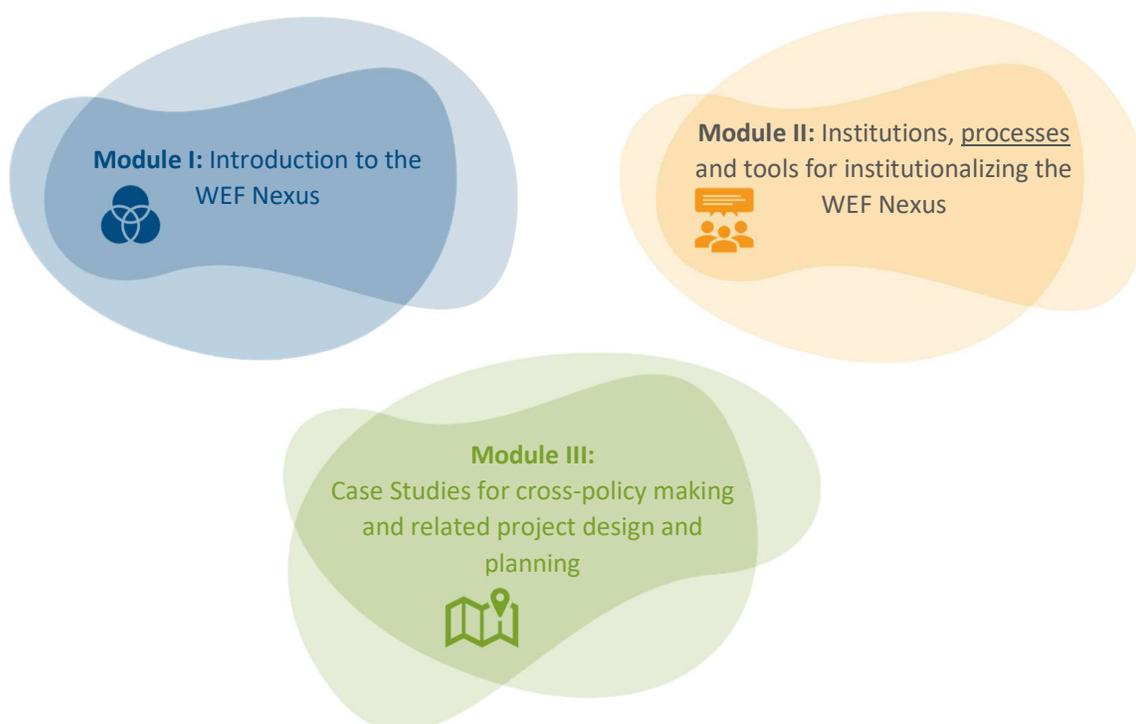
Despite this baseline work, more detailed information on participants and their specific training requirements is needed prior to each training workshop. The assessment of participant's background

knowledge and training needs is crucial for developing a tailor-made training programme catering to their specific learning requirements. This pre-training assessment should be conducted at the beginning of the preparation phase in order to allow for the trainer to base the design of the programme on the results obtained. Annex 1 provides a pre-training questionnaire that can be used for this purpose. It allows trainers to adapt the workshops to specific needs of various NRD target groups by collecting information on the relevance of training topics to participants' work context, their prior WEF-Nexus experiences and knowledge as well as additional learning needs. This questionnaire can be adjusted if necessary. It might for example be necessary to shorten the questionnaire to assess training needs for the short and basic one-day training in order not to raise too many expectations on what could be covered during this short time frame.

## 2 Structure and approach

### 2.1 Modular training concept

The training materials on the WEF Nexus follow a modular concept that offers several combinations for different learning paths, addressing a variety of target groups and their specific training needs. The toolkit comprises three thematic training modules as shown in the chart below, covering the areas relevant to the WEF Nexus approach:



The overall training structure combines introductory training elements to familiarise participants with the training topic, interactive exercises to gain a deeper understanding, and expert tools for an in-depth analysis of and application of the Nexus approach. Each of the three modules is sub-divided into chapters consisting of sessions of approximate 60-75 minutes, including interactive exercises. Accordingly, the sequence of each module is as follows:

All three modules include an **introductory storyline, presentations** with the main content on the topic and **1-2 interactive exercise(s) for group work sessions**. As a basis for an effective interactive approach, the preparation of the training starts with an assessment of the level of knowledge and background of participants, to allow the trainer to refer to participants' personal work context and experiences and to adapt the interactive approach or exercises chosen accordingly. Moreover, early on during the training, the participants are asked to reflect on their experiences and challenges in cross-sectoral approaches, and to use their own cases or projects as a basis for exercises. This allows them to make direct links between their real-life challenges and how the training contents can help to overcome them, and thus increase learning effectiveness.

The practical work phase builds on a variety of interactive and participatory exercises that aim to:

- Scoping of the participants' knowledge on the training topics, analyzing challenges, and finding solutions with regards to the WEF Nexus in the five target regions (e.g. through mapping exercises, role play), and at
- Conveying insightful knowledge on the training topics as well as introducing instruments or tools to analyze and assess the WEF Nexus (e.g. case method, analyzing exercises, quiz).

A detailed description of each exercise with details on the materials and time required is included in the module description of this manual as well as in the handouts.

## 2.2 WEF Nexus training materials

Given the modular and interactive character of the training programme, the WEF Nexus Capacity Development toolkit comprises several formats of training materials as explained below:

- Trainer's Manual with instructions for the trainers to conduct the participatory training formats;
- PowerPoint slides for the theoretical introductions including further background information on the training contents in the notes section;
- Slides for interactive elements during presentations (questions for use in e.g. Mentimeter or in the class room)
- Handouts for participants with instructions on interactive (group) exercises;
- Ex-ante and ex-post survey templates

### *PowerPoint slides*

The purpose of the PowerPoint presentations within the frame of this WEF Nexus training toolkit is to give participants **an overall introduction to the topic of the respective training module**. The introductory presentations also aim to approximate the knowledge level of the participants group to enable them to follow the more specific inputs and exercises during the training seminar.

In order to provide the trainers and participants with background information on each training topic, the **notes section of the PowerPoint slides include speaking points** on the contents presented in the respective slides. It also gives links to sources, trainers may use this information to prepare for the training sessions; at the same time, the slides together with the notes section can be printed and handed over to participants as a training workbook. Additional information including references for further reading, relevant internet-links and a bibliography of the literature used under each module is included in the module description of this trainer's manual.

### *Handouts*

The handouts are meant to **guide participants through the exercises** and case studies of the respective training module. The specific setting and the instructions on how to proceed with the exercise are introduced in the same format in each handout. All handouts are listed in Annex 3.

## Trainer's Manual

The Trainer's Manual is addressed to the trainers who act as multipliers for the WEF Nexus approach. It is meant to offer them a **structured guideline on how to plan and conduct the WEF Nexus training**. It also offers them an extensive list of **additional information, literature and online sources** referring to the WEF Nexus approach and the available techniques to conduct interactive training seminars. Furthermore, a section about didactic principles and hints for facilitation of *virtual* sessions includes hints for alternative ways of visualizing the information given as well as methods to actively engage with the participants, even in a virtual context.

Specific details for digital  and non-digital  use are indicated with icons.

## Survey Templates

Two survey templates were developed for this training – a preparatory training needs assessment questionnaire (Annex 1) as well as an evaluation questionnaire (Annex 2) that trainers can use as a basis and adjust to the specific training contexts.

The **preparatory training needs assessment questionnaire** serves to identify the specific work context of training participants, their knowledge gaps and expectations with regard to training. The survey can be shared with participants in form of an online survey or as a word document prior to the training. Feedback received through this survey will facilitate adaptation of the workshop content to the specific needs and priorities of the training participants.

The **evaluation questionnaire** should be shared with participants upon completion of the training seminar. The template offers a structured method to measure the training results, gather feedback and evaluate their learning progress. The results of this evaluation will help to improve future workshops and adjust the training materials as necessary.

### 3 Optional training durations and course planner

The course planner supports the trainer in planning the whole training by providing an overview of the available sessions with their objectives, duration, suggested methods, materials needed and suggestions for session constellations for different training durations.

Based on the modular concept of the WEF Nexus approach as described above, the training program can be optimized for training durations of:

<p><b>0,5</b> day: Introductory</p> <p>The 0,5-day introductory training aims at <b>raising awareness</b> amongst the respective target group rather than conveying in-depth knowledge on the topic. This half-day training consists of <b>chapter 1.1-1.3</b>, including <b>one exercise</b>. This chapter introduces the main components of the WEF-nexus concept and raises awareness about the interactions as well as potential synergies and solutions that exist between the three sectors. If time is very limited, either the exercise or chapter 1.2 could be left out.</p>	<p><b>1</b> day: Short and basic</p> <p>The 1-day version takes place in form of a <b>short and basic training</b>, providing a concise overview of the WEF Nexus, solutions, instruments and tools but with limited interactive elements and case studies. This version comprises the <b>entire module 1</b> (including chapters 1.1, 1.2, and 1.3), as well as <b>one chapter of Module 2</b>, depending on the interest and background of the target group.</p>	<p><b>3</b> days: full (incl. Nexus game)</p> <p>The extensive training of 3 days provides a comprehensive overview of the WEF Nexus and goes through examples and case studies, including interactive exercises, group activities, quizzes, and more. It allows for a training approach <b>with several interactive formats</b> and one full day is foreseen for the <b>Nexus game</b>. Especially with this extensive version, participants are enabled to initiate concrete activities relevant to the respective situation in their country.</p>
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Modules	Objectives	Chapters	Methods/ Exercises	Material	Duration	Suggested training course option					
						Half day course	1 day course		3 days course		
1	<b>Introduction to the Water-Energy-Food Security (WEF) Nexus</b>	Introduce the topic and raise awareness about interlinkages, trade-offs and major trends in the WEF sectors  Learn about, opportunities and synergies that the Nexus approach entails	1.1	Background to the Water-Energy-Food (WEF) Nexus	Presentation	PPT	70 min	x	x	Day 1	x
			1.1	Interactive exercise: Experiences with sectoral interlinkages	Exercise	Handout	60 min	x	x		x
			1.2	Water-Energy-Food Interactions	Presentation	PPT	50 min	x	x		x
			1.3	Water-Energy-Food Nexus Solutions	Presentation	PPT	30 min	x	(x)		x
			1.3	Interactive exercise : Reflections on Nexus solutions	Exercise	Handout	60 min	(x)	x		x
2	<b>Institutions, processes and tools for institutionalizing the WEF Nexus</b>	Raising awareness that addressing WEF Nexus trade-offs and synergies requires policy-making across sectoral and institutional lines as well as across different scales  Learning about possible ways of anchoring Nexus process in the target regions  Informing about and providing examples of Nexus assessment tools  Explaining ideas/ strategies to mainstream the nexus Providing knowledge about cross-sectoral investment planning and financing	2.1	Assessing the Nexus	Presentation	PPT	75 min		x	Day 2	x
			2.1	Interactive exercise: Selecting nexus indicators	Exercise	Handout	70 min		(x)		x
			2.1	Alternative exercise: The multi-purpose dam	Exercise	Handout	120 min		(x)		x
			2.2	Governing the Nexus	Presentation	PPT	70 min		x		x
			2.2	Interactive exercise: Nexus Policy Analysis	Exercise	Handout	70 min		(x)		x
			2.3	Cross-sectoral investment planning and financing	Presentation	PPT	45 min		x		x
			2.3	Interactive exercise: Pitching your Nexus project	Exercise	Handout	80 min		(x)		x
3	<b>Case Studies</b>	Illustrating the benefits of Nexus projects and deepening the understanding of how to integrate the Nexus approach in project design and planning	3	Mobile solar powered irrigation systems (SPIS), Bolivia	Presentation	PPT	15 min		(x)		(x)
			3	The Sahara Forest Project, Jordan	Presentation	PPT	25 min		(x)		(x)
			3	The Lagdo Dam in the valley of the Benue, Cameroon	Presentation	PPT	15 min		(x)		(x)
			3	WEF-Nexus coordination in the lower Kafue basin, Zambia	Presentation	PPT	20 min		(x)		(x)
			3	Policy framework for WEF coordination and the amendment of the fertilizer ordinance, Germany	Presentation	PPT	30 min		(x)		(x)
			3	Hydropower in the Reventazón River, Costa Rica	Presentation	PPT	15 min		(x)		(x)
	<b>Nexus Game</b>	Can alternatively be played on day 1 as a starter.					1 day			Day 3	x

## 4 Didactic principles and hints for facilitation

### 4.1 Introduction

When designing a training, it is important to plan a **good mix of input and interactive exercises** and **energizers**. This not only helps at the beginning of a training to get to know the participants better, but also creates the necessary variety and movement during the training that helps:

- boost concentration,
- consolidate the input learnt and
- contributes to better networking among the participants.

This chapter on didactic principles and hints for facilitation of *virtual* and in-person sessions for the trainer includes suggestions on how to open the training, exercises to get to know the participants and energizers to help the participants to stay focussed. Furthermore, suggestions are made on how to consolidate the input learned at the end of each session, dos and don'ts for the setting, preparatory tasks and troubleshooting for technical issues when holding the training in a virtual setting, hints for gender sensitivity in conducting trainings.

### 4.2 Gender sensitivity

Gender sensitivity in trainings is crucial to ensure the active participation of and a positive learning experience for all training participants. As a consequence of existing gender relations and obstacles, female participants are often less active during trainings, while men dominate discussions. During the training, it is not only the trainer's role to provide information but also to create a learning environment where every participant, regardless of their gender shares experiences, asks questions and joins discussions. The following guidelines aim to actively empower women to contribute and support the equitable participation of every participant:

- The training organizers ensure that relevant women are identified and invited to the training workshop
- The trainer is aware of biases, prejudices and assumptions, considers gender differences and interests and has specific knowledge in regards to the gender perspective of the WEF-Nexus
- The trainer uses gender sensitive language and displays both men and women as key actors within the WEF-Nexus (e.g. using female decision-makers in examples)
- If suitable, the trainer can directly address women to share their experiences
- The training schedule is in line with women's needs (e.g. the training does not extend far into the afternoon)

### 4.3 Check-ins and ice-breaker

Check-ins and ice-breakers are always important to create a good training or workshop atmosphere. In the digital world even more so, as it is more difficult for people to relate or establish relationships to fellow participants and develop a team spirit. Apart from a conventional introductory round in the

plenary (that takes up quite some time if everybody introduces themselves), the following workshop openers work very well:



- **Triads:** Groups of three participants each, randomly selected, are sent to separate break-out rooms to briefly introduce themselves to their fellow participants and/or discuss about personal or workshop-specific guiding questions (e.g. What are your expectations for this workshop? What is your focus of work/ how is your work related to the workshop topic). You should plan for 2-3 rounds to allow participants to meet several other people and to get familiar/ warmed-up for the workshop topic.
- **Digital world map/ class book:** Put up a digital world map on a MIRO board and ask participants to pin a needle in the city/country they are based in. In case you should have a very international group, you may want to frame the exercise as a digital “world tour” in times where travels are so restricted. A similar exercise could be done with a class book outline, asking participants to fill in the given sections put up on a MIRO board (e.g. name and organisation, favourite food, focus of work etc.).



- **Throw a ball:** The group of participants stands in a circle. The first participant receiving the ball will introduce themselves answering the following questions. What is your name? What do you expect from the training? What do you know about the WEF Nexus approach? Then the participant throws the ball to the next person until everyone has been introduced. It is helpful to write down the questions on a flipchart or cards pinned to a wall. This helps the participants to remember what to talk about. The questions can be adjusted depending on the context of the training and the background of the participants. If there are people who cannot stand, you can also perform the exercise sitting down.
- **Scales:** Ask the participants: How much experience do you have with the WEF Nexus approach? Tell them to line up according to their answer: participants with little knowledge gather at the far left, those with some knowledge in the middle, and those with sound knowledge should stand on the far right. Interview one participant from the left, one from the middle and one from the right, asking them why they are standing where they are. You can repeat the exercise asking the participants to line up according to another one or two questions. Possible questions include: What topic under the WEF Nexus approach interests you the most? (In this case you may offer different spots in the room representing the thematic modules). What role does the WEF Nexus approach play in your sector? (Here you may offer a scale from “no role” to a “very important role”).
- **Introduction matrix:** Fold sheets of white A4 paper in the middle twice, so that there are four sections. Give each participant one sheet and a pen and ask them to do the following: First, write your name, job and organization in the top left-hand part of the sheet. Second, write two things you expect to learn from the training in the top right-hand part. Third, write your favourite food and hobbies in the bottom left-hand part. Finally, draw a picture that describes your personality or lifestyle in the bottom right-hand part (e.g. the sun, symbolizing being cheerful). When everyone has finished, each participant presents the information on their sheets (2-3 minutes per presentation). Ask participants to pin their sheet onto a pin board or the wall so they are visible throughout the entire training. The trainers can adjust the type of questions depending on the context of the training and the background of the participants.

Whatever method you choose, you should make sure that when starting your day, every participant gets the opportunity to say something about him/herself. Also remember to greet/ call every participant by their name to create a welcoming atmosphere and to lower the barrier of speaking up.

## 4.4 Energizers

Energizers get participants moving, having fun and ensures that the energy level of the group is high. For virtual trainings or workshops, a more frequent use of energizers is recommended compared to offline settings as they offer participants small breaks to interact with each other, laugh together or stand up and move away from the screen. The choice of your energizer depends on your audience. Mind to choose apt and inclusive energizers. Each of them should only last 1-2 minutes. Here are a few examples:



- **Tools testing:** Your first energizer could be around testing some of the tools you are using during your training such as Miro or Mentimeter. You could, for example, ask each participant to write down his/her top three favourite movies on three sticky notes of different colours. Or you could do a Mentimeter trivia so that participants get acquainted with the tool.
- **Touch and show:** The facilitator calls out something to touch, for example: "Touch blue!" Each person then has to get up and touch something with that colour (a blue marker, a blue book etc.) in the location they are participating from and show it into the camera for others to see. The facilitator continues with other things to touch or show to the camera.
- **Show your world:** The facilitator asks everyone to turn their cameras so that they face out the window closest to each participant. Participants get an impression of the different surroundings other participants are located in.
- **Physical:** Physical energizers usually involve mutual stretching of some kind. The facilitator asks everyone to stand up and mimic the stretching exercises of the facilitator.
- **Dancing:** An advanced way of a physical energizer can be a short dancing exercise. The facilitator can play some music and ask everyone to dance to it or to show his or her favourite dance move. This energizer is not suitable for every setting as for some audiences, dancing might be considered too outgoing or personal.
- **Drawing:** The facilitator asks every participant to draw a certain (easy) object using pen and paper and show it into the camera afterwards. The facilitator can call out or have participants vote for the best or most creative drawing.
- **Take a walk:** Participants are asked to step out of the building they are joining the workshop from and take a short walk of 5-10 minutes. They might be tasked to take at least one picture during their walk (e.g. on a given theme) or they could even join a session via their smartphone and describe what they are seeing/ exchange on a certain topic (only possible if internet connection is stable).



- **Avalanche:** As material, you will need two long sticks (e.g. folding rulers) or large rings (e.g. hula hoops). Ask the participants to split into two groups and give each one a stick or ring. The goal of each group is to make impacts across nexus sectors go down, symbolized by lowering the stick or ring to the floor as fast as possible. Now, ask the members of each group to stick out their index fingers. Place the stick or ring on the top of their index fingers and tell them they are only allowed to touch the stick or ring with the top of this finger. The participants must keep touching the stick or ring at all times. On "go", the groups try to move the stick or ring towards the floor as fast as possible. Usually, the stick or ring goes up instead of down. Afterwards, ask the participants to describe what happened during the game. Why was it difficult to lower the stick or ring? Discuss how the rules (such as not losing contact with the stick or ring) produced a different result from that intended. Then, draw a parallel with WEF Nexus relevant negotiations, where it is assumed that if everyone agrees on a goal and works hard towards it, it will be successful. In fact, what people actually do tends to achieve short-term gains. Often, the rules produce different outcomes from those expected.
- **Seven-up:** The trainer asks the participants to form a circle. If the number of participants is large, then divide them into two groups. The group decides which person starts. The selected person will say "one," indicating either his/ her right or left side by putting the palm of the right or left hand on the chest. The person on the indicated side will say "two." This second person then indicates another person either on his/her right or left side in the same way. Following this scheme, the game will continue until it reaches the sixth person. The seventh person should say "seven-up," putting the palm on the head and pointing either right or left. The game starts again with the eighth person. With every round, the group can increase the pace. If someone makes a mistake or cannot follow the rules, she or he sits out for one round by taking a step back from the circle.
- **Physical/ Dancing:** same as in virtual settings, see above.

## 4.5 Interactive elements and exercises

While the PowerPoint presentations present a valuable resource for conducting a WEF-Nexus training, we strongly encourage trainers to use other ways to convey information to participants, too. To engage participants in a learning journey, helping them to absorb and reflect on the new information, it is important to make the training as interactive as possible.

The training materials therefore include two types of interactive tools:

### 1) Interactive questions

Several interactive question elements are included throughout the PowerPoint presentations of this training. They include questions about participants' backgrounds (at the beginning of the training), questions to capture participants' prior knowledge ("quiz questions") and Q&A sessions to discuss the content of presentations.

**Quiz questions:** Throughout module 1 and 2, the training materials include a number of “quiz questions” to stimulate interaction with participants and keep them focused.



- In online sessions, the answers to these questions could be collected via an online application such as Mentimeter ([www.menti.com](http://www.menti.com)) or Slido ([www.sli.do](http://www.sli.do)) that allow to make presentations with real-time feedback interaction. The trainer has to prepare the questions from his/her online account (in form of slides) prior to the training. During the training, participants then respond by visiting menti.com on their mobile device or computer and entering the code for the presentation (that the trainer has to share with them). The results are then displayed anonymously and in real time.
- Alternatively, trainers could ask participants to share their answers via online whiteboards such as miro ([www.miro.com](http://www.miro.com)). The trainer would need to prepare individual boards with questions prior to the training and ask participants to share their answers by writing on notes during the training. When sharing the link to the respective board, make sure to have the right settings in place that allow participants to not only see but also edit the board. However, for larger training groups, a tool like Mentimeter, including multiple-

Furthermore, the training materials (PPTs) contain placeholder sections for **Q&A sessions**. These slides are only placeholders and trainers should feel free to adjust the timing and amount of feedback rounds (depending, for example, on the overall length of the training, number of participants, online/in-person training). It is advisable to include more feedback rounds and regular check-ins with participants during online trainings to ensure that the trainer has a good perception of the mood and potential needs of the people participating as this is much more difficult to get a feel for in virtual settings.

Lastly, in the beginning of module 1 (presentation for chapter 1.1) several multiple-choice and open **questions about participants backgrounds** aim to capture some personal information and existing knowledge about the WEF-Nexus from training participants. Similar to the outlined online tools for the “quiz questions”, the questions can either be prepared via Mentimeter or miro (or any similar tools) or, for in-person setting, asked verbally. Alternatively to the presented questions outlined in the training’s slides, the round of introduction can also be realized through the examples introduced in the previous section on “check-ins and icebreakers”.

## 2) Interactive exercises

A total of 5 (+1 alternative) exercises (see below) were developed for this training, covering the content of all 3 training modules. Each module description in chapter 6 of this trainer’s manual contains an overview of the respective exercises that are included in the module. Each exercise description includes an outline of the learning objectives, a step-by-step guide for preparation/implementation/debriefing of the exercise as well as the materials required (such as handouts, pinboards etc.). Handouts for each exercise are meant to guide participants through the exercises of each training module (compare Annex 3). The specific setting of the case study and the instructions on how to proceed with the exercise are introduced in the same format in each handout.

The following list provides a brief introduction to the interactive exercises, which are covered in detail in Chapter 6.



<b>Exercise 1.1:</b> Your experiences with sectoral interlinkages	Aims at identifying currently pressing WEF challenges and their major interlinkages in the respective context.
<b>Exercise 1.3:</b> Reflections on Nexus solutions	The objective of this exercise is to identify possible solutions to overcome the WEF Nexus challenges discussed in Exercise 1.1.
<b>Exercise 2.1:</b> Selecting Nexus Indicators	Focusses on the reflection on appropriate indicators to measure and demonstrate the impacts of WEF nexus projects and to discuss the related challenges.
<b>Alternative 2.1:</b> The multi-purpose dam	Role play that aims at developing indicators that integrate the point of view of other sectors.
<b>Exercise 2.2:</b> Nexus Policy Analysis	The objective of this exercise is to reflect on the policies and instruments that regulate resource use in the WEF sectors and develop ideas to address these.
<b>Exercise 2.3:</b> Pitch your WEF Nexus project!	Aims at pitching a WEF Nexus project in order to attract funding. Thus, it provides insights into funding opportunities for the implementation of WEF Nexus projects.

## 4.6 Do's and don'ts

<b>Number of participants</b> 15-20 persons	Trainings should ideally not have more than <b>15-20 participants</b> to ensure a smooth session flow and provide a good learning experience that allows for interaction. For the Nexus Game we rather recommend a maximum of 6-15 participants.
<b>Length of individual sessions &amp; breaks</b> < 90 min/ session 5 – 10 min bio-break	To keep the training interesting for attendees and maintaining their attention, individual sessions should <b>not last longer than 90 minutes</b> . Ideally 60-75 minutes, especially in online settings. Inputs (e.g. presentations, introduction to an exercise) that last <b>longer than 10 min</b> should include <b>interactive elements</b> , such as <b>feedback interventions</b> or <b>questions</b> that participants have to answer.  Short bio-breaks of 5 min every 45 min, or longer breaks (10-15 min) every hour and long lunch breaks (1-2 hours) if you work over more than half day do magic to your participants' attention span and motivation. Online workshop days should be shorter than in offline settings (6-7 Hours max, including breaks)
<b>Group work</b>	Working group sessions where <b>4-6 participants per sub-group</b> engage in a moderated discussion around specific

4-6 persons/ group	guiding questions or work on an interactive exercise, in turn, can take up to 45 minutes. Overall, make sure to keep participants <b>active</b> throughout the workshop or training.
<b>Regular check-ins</b> feedback rounds	Make extensive use of feedback rounds and regular check-ins with participants to ensure that you have a <b>good idea of the mood and potential needs</b> of the people participating. Check the ideas and suggestions above for <b>energizers, ice breakers and check-ins</b> .
<b>Time schedule</b> Stay flexible!	As a facilitator try to stick to your overall time schedule (start and end of virtual event) as much as possible while being otherwise <b>flexible as to the sequencing of sessions, breaks, energizers or interactive elements</b> . Flexibility in that sense is a great asset when you face problems with participants' internet connectivity or if an exercise takes longer than anticipated.

## 4.7 Preparation and troubleshooting for trainings



**Team set-up:** Plan for sufficient (wo)men power: Plan for a technical (co-) facilitation and/or back-up personnel to take care of technical tasks like setting up break-out groups, answering questions submitted via the chat function or reassigning participants to break-out groups if they drop out in between the session.

**Create technical redundancies in your team:** Plan for eventual technical or organizational difficulties as you are implementing your digital format. It is highly advisable to always have at least two people a) assigned as host/ co-host of the meeting (check Zoom settings beforehand), b) with access to the material you use (i.e. PowerPoints being presented, working material, etc.) c) knowing how to operate important Zoom functions (waiting rooms, screenshare, muting, etc.) d) proficient in the usage of your tools (i.e. Mentimeter, etc.)

**Online affinity and technical provisions:** One essential issue to consider is what level of digital literacy you can expect from the participants of your training. When your participants are not used to interactive online formats prepare some guidance on what they can expect. This should include some basic step-by-step guidance on the use of the video conference platform. Also, planning for a technical check-in or an open trial session or space (e.g. test rooms for zoom, technical check-in session prior to the workshop) with light energizers to learn using the tools might be helpful. In the meantime, do not overload your briefings with technical aspects as it might intimidate your less tech-savvy participants.

**Keep it simple!** Having several tools to implement a virtual training format can give the participants an enriching and engaging experience, but having too many tools can be overwhelming for participants and challenging for the team to manage.

**Overinvest in testing and practicing:** Devote some time to practice using all the tools and features that you will be applying in your training. Make sure that you and your team knows how the respective features work and if possible, organise a simulation of the types of activities you are planning to implement.

**Plan B:** You should always have a Plan B for implementing the virtual training in case problems arise with the digital system or tools. Have an email prepared with your slides or exercises and tasks, maybe resort to the chat, annotation function via zoom for those not able to access your online tools. Earmark those participants encountering difficulties and spend some extra effort to engage them with your facilitation techniques. You should also:

- Send input slides and/or activities beforehand
- Ask participants beforehand to have pen and paper at their disposal in case they have problems working with/accessing the online tools
- Make a recording of your digital training sessions so that participants can watch the session afterwards in case they have experienced internet problems during the live

**Send calendar invites:** Even if the participants have received a detailed agenda, it can be a very good idea to send them calendar invites at least one week before each session, including the link to the session, so that they can easily join.

**Create informal communication channels:** Informal communication channels, such as WhatsApp groups, can be a way for you to communicate with the participants, send reminders, or allow them to contact you if they have questions.

**Give clear guidance on requirements and use of tools:** Well before the start of your event, give your participants clear guidance on the technical requirements that the training will have and on the tools that you will be using. Guidance on next steps and technical requirements can be part of the first invitations that you deliver (such as advising them to download the Zoom app to be able to use breakout rooms).

**Technical check-up 15 minutes before the session:** Before each of your sessions make sure to organize a technical check-in 15 minutes before the start of each session or even days before. Use these sessions to check whether the all facilitators & experts have any video or audio-related troubles, and check about them sharing their screen.

**Empower active participation:** Having active and engaged participants is an important element to achieve high quality trainings and workshops, particularly in a digital setting.

- Ask participants to keep their cameras on during sessions
- Address participants by their names when asking a question or requesting feedback
- Encourage participants to ask their own questions using their microphone
- Frequently include small exercises, quizzes or energizers during presentations
- Make use of break-out sessions
- Ask participants to individually work on tasks and to share their results in the plenary



- **Team set-up:** Plan for sufficient (wo)men power: Plan for at least two moderators/ training facilitators. Make sure you define roles beforehand, specifically when you use an interactive app for quizzes or similar.
- **Send calendar invites:** Even if the participants have received a detailed agenda, it can be a very good idea to send them calendar invites at least one week before each session, including the link to the session, so that they can easily join.
- Appropriate **devices** are necessary to present the provided PowerPoint presentations and interactive exercises in presence. Make sure you check out the conference room in advance, test the technical devices and prepare the seating and table set-ups.
- **Set-up of conference room:**
  - Laptop
  - LCD projector
  - 3 pinboards
  - 3 flipcharts
  - Moderation box (inkl. Pins, markers etc.)
  - 3 round tables + chairs
  - (apps for interactive exercises)
  - Printouts (hand-outs, list of participants)

## 5 Training Modules

### 5.1 Module I - Introduction to the Water-Energy-Food Security Nexus

Module 1 gives a comprehensive overview of the WEF Nexus, its background and main components. It can be used as a stand-alone training for a half-day training session or as an introduction to a multiple-day training (see course planner). The module is divided into **two separate chapters**. The first chapter (1.1) introduces the topic and its main components while the second chapter (1.2) outlines the interactions between the WEF sectors and possible solutions in more detail. Chapter 1.1 can also be used as a very brief, stand-alone (approx.2.5h) training.

#### 5.1.1 Chapter 1.1: Introduction to the Water-Energy-Food Security Nexus

##### Overall learning objectives

- Introduce the WEF Nexus and the associated securities
- Gain an overview of major global trends in the water, energy, food sectors
- Learn fundamentals of a WEF Nexus approach, particularly on the opportunities and synergies that the Nexus approach entails
- Understand that the WEF Nexus is linked to other concepts

##### Timeframe / Duration:

130 minutes (70 minutes presentation and interaction + 60 minutes exercise)

##### Chapter overview:

The chapter begins with a storytelling intro of a fictional WEF nexus story placed in the city of Mostanova to introduce participants to the topic and engage them in an interesting way. The names of places and people in this story can be adapted by the trainer to better fit to the cultural settings of the training.

This storytelling introduction is followed by an outline of the module and subsequently asking participants some questions about their personal backgrounds and existing knowledge about the WEF-Nexus. This background information - in combination with the pre-training questionnaire – aims to provide the trainer with additional information to adjust the training materials to participants needs. For example, if participants have a predominantly “water”, “energy” or “food” background, the respective concepts of each of the sectors presented in chapter 1.2 can focus on those that the participants are not familiar with (while limiting the information provided on the ones participants already have a strong knowledge of).

The slide on the topic “Why Nexus and how does it differ from IWRM” is an optional slide that should only be used for participants with a strong water and IWRM background that might have some “reservations” about the Nexus concept. For all other trainings this slide should be left out to avoid any confusion. This information should ideally be retrieved prior to the training via the pre-training questionnaire.

The chapter then continues by outlining the relevance of the WEF sectors for global development and explains that growing demands for water, energy and food will require intensified resources use

in each of these sectors, which in turn can interfere with other goals within the other sectors and potentially have negative impacts on those as well (“trade-offs”). These individual trade-offs between the three WEF sectors as well as the environment as a whole are then briefly introduced (a more thorough outline follows in chapter 1.2), followed by an outline of the WEF Nexus concept and its key components and benefits (such as reducing trade-offs and enhancing resource efficiency). The potential synergies and other benefits that can be derived from a WEF Nexus approach are introduced along three technical examples from Jordan and west Africa (a more thorough outline is provided in chapter 1.3).

This part is then followed by four slides that outline how the WEF nexus approach is linked to the Sustainable Development Goals (SDGs) as well as other policy processes and concepts. The aim here is to demonstrate to participants that the nexus approach also supports these development processes and can work as an enabler for policy stakeholders (and others) in achieving these broader development goals.

The final part of chapter 1.1 concludes with two slides that highlight the role of governance aspects, which are a key context factor for any WEF nexus approach. These governance aspects are only introduced very briefly at this point of the training as they are dealt with in more detail in module II (chapter 2.2). This part of the module can therefore also easily be combined with the respective components in module II – for example by moving the first slide of this section to the respective part in module II and dropping the second slide (as this is presented in module II again – albite in a different form).

Before moving to the exercise part of the module, participants should have the possibility to ask questions about the presented material. There is a placeholder slide for such a segment in the training materials. However, depending on the overall setting of the training and duration of the training, the trainer may want to provide room for questions at an earlier stage already. For example, in an online setting it might be advisable to include more time for questions throughout the training.

Chapter 1.1 concludes with an interactive exercise (see interactive exercise 1.1 below) where participants are asked to share their own experience on WEF Nexus challenges and existing interlinkages in their regional context (see more details in next section).

The concluding slide of chapter 1.1 summarizes the main aspects of the WEF Nexus and can be used to link the content of the presentation's part to the outcomes of the discussions in exercise 1.1.



**Interactive exercise 1.1:**

**Experiences with sectoral interlinkages**

Learning objective:

- Identify challenges in the WEF-sectors and their interlinkages in participants' own regional context

Time: 60 min

Level of complexity: medium

<p><b>Material:</b></p> <ul style="list-style-type: none"> <li>• Hand-outs (1 per group, 1 for instructor)</li> <li>• Pin boards + Markers / online boards (e.g. Miro) for online settings</li> </ul>		
Time	Step-by-step approach	Material
	<p><u>Preparation phase:</u></p> <ul style="list-style-type: none"> <li>• Prepare one pin board for each working group representing the two tables presented in the handout</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
10 min	<p><u>Briefing phase:</u></p> <ul style="list-style-type: none"> <li>• Present the objectives of the exercise</li> <li>• Go through the different steps that are also explained in the handout</li> <li>• Leave time to answer questions</li> <li>• Break-up participants into groups (3-6 people)</li> <li>• Groups can use the prepared pin boards to collect their answers or collect their answers in the handouts first and copy them to the pinboard later while presenting it in the plenary</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
20 min	<p><u>Active phase</u></p> <ul style="list-style-type: none"> <li>• Give time for the group to read the instructions on the hand-out</li> <li>• Give further instructions or input, where needed</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
20-30 min	<p><u>Debriefing phase:</u></p> <ul style="list-style-type: none"> <li>• Each group presents their results to the plenary</li> <li>• Comparison of group results and further discussion in the plenum</li> </ul>	<ul style="list-style-type: none"> <li>• Pin boards</li> </ul>
<p><b>Background information</b></p>		
<p><b>Hoff, H. (2011). Understanding the Nexus. Background Paper for the Bonn 2011 Conference: The Water, Energy and Food Security Nexus. Stockholm Environment Institute, Stockholm. Available at: <a href="https://mediamanager.sei.org/documents/Publications/SEI-Paper-Hoff-UnderstandingTheNexus-2011.pdf">https://mediamanager.sei.org/documents/Publications/SEI-Paper-Hoff-UnderstandingTheNexus-2011.pdf</a></b></p> <p>This background paper was prepared for the Bonn Nexus 2011 Conference which was amongst the first platforms that developed and discussed the WEF security nexus approach. Hoff's paper has since become an influential and well-known reference in research and related policy fields. The paper delivers initial evidence for how a nexus approach can enhance water, energy and food security by increasing efficiency, reducing trade-offs, building synergies and improving governance across sectors. It also underpins policy recommendations, which are detailed in a separate paper. The paper also identifies knowledge gaps which many researchers have since tried to address.</p> <p><b>Purwanto, A., Susnik, J. Suryadi F.X. and C. de Fraiture (2021). Water-Energy-Food Nexus: Critical Review, Practical Applications, and Prospects for Furture Research. Sustainability 2021,13, 1919. Available at: <a href="https://doi.org/10.3390/su13041919">https://doi.org/10.3390/su13041919</a></b></p>		

This paper presents knowledge gaps and critiques on the water–energy–food (WEF) nexus that have emerged since the concept of the WEF nexus was proposed by the World Economic Forum and the Bonn 2011 Conference. Furthermore, this study analyses current innovations on the WEF nexus concept, applications, and impacts during the period of 2012–2020. This begins by reviewing ten WEF nexus frameworks developed by international organizations and researchers. On this basis, several gaps and omissions in nexus frameworks are obvious in almost all developed frameworks. Studies that start to address some of these gaps are analysed, but they are relatively few and do not address all gaps. Several proposed improvements to nexus frameworks are identified to narrow the gaps and put the concept into practical implementation in WEF resources management and governance. Four principles and the perspective of “from local to global” for future WEF nexus framework development and analysis are suggested to ensure that the security of water, energy, and food resources can be achieved sustainably in local communities. This will improve the impact of national and global ambitions on WEF security.

## References

- Agriwaterpedia (2016). Multipurpose dams. Available at: [https://wocatpedia.net/wiki/Multi-purpose\\_dams](https://wocatpedia.net/wiki/Multi-purpose_dams)
- Client II (2021). Video: Project presentation APV-MaGa. Available at: <https://www.bmbf-client.de/publikationen/video-project-presentation-apv-maga>
- Deutsches Institut für Entwicklungspolitik (DIE), 2012, A Nexus Approach for Humans and Nature? Global Water News No. 14. Available from: [http://www.gwsp.org/fileadmin/documents\\_news/Interview\\_Scholz.pdf](http://www.gwsp.org/fileadmin/documents_news/Interview_Scholz.pdf)
- Dombrowsky, I. and O. Hensengerth (2018). Governing the Water-Energy-Food-Nexus Related to Hydropower on Shared Rivers – The Role of Regional Organizations. *Front. Environ. Sci.*, published 18 December 2018. Available at <https://www.frontiersin.org/articles/10.3389/fenvs.2018.00153/full>
- Food and Agriculture Organization (2014). The Water-Energy-Food Nexus - A new approach in support of food security and sustainable agriculture', Food and Agriculture Organization of the United Nations, pp.1–11.
- Fraunhofer ISE (2021). APV-MaGa – Agrivoltaics for Mali and Gambia: Sustainable Electricity Production by Integrated Food, Energy and Water Systems. Available from: APV-MaGa – Agri-Photovoltaik für Mali und Gambia: Nachhaltige Stromproduktion durch integrierte Nahrungsmittel-, Energie- und Wassersysteme - Fraunhofer ISE
- Fraunhofer (2019). Agrivoltaics – solar panels on top, potatoes down below. Available from: <https://www.en-former.com/en/agrivoltaics/>
- GIZ (2016). Water, Energy & food Nexus in a Nutshell. Available from: [www.water-energy-food.org/fileadmin/user\\_upload/files/2016/documents/nexus-secretariat/nexus-dialogues/Water-Energy-Food\\_Nexus-Dialogue-Programme\\_Phase1\\_2016-18.pdf](http://www.water-energy-food.org/fileadmin/user_upload/files/2016/documents/nexus-secretariat/nexus-dialogues/Water-Energy-Food_Nexus-Dialogue-Programme_Phase1_2016-18.pdf)
- Global Nexus Secretariat (GNS) (2020). Global Water, Energy and Food Nexus Principles: The Nexus Regional Dialogues Programme. Available from: [https://uploads.water-energy-food.org/legacy/nexus\\_principles\\_final\\_version\\_30-06-2020.pdf](https://uploads.water-energy-food.org/legacy/nexus_principles_final_version_30-06-2020.pdf)
- Global Water Partnership (2019). The Nexus approach. Available from: <https://www.gwp.org/en/GWP-Mediterranean/WE-ACT/Programmes-per-theme/Water-Food-Energy-Nexus/the-nexus-approach-an-introduction/>
- Grigg (2019). IWRM and the Nexus Approach: Versatile Concepts for Water Resources Education. *Journal of Contemporary Water Research & Education*, 16(1). Available at: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1936-704X.2019.03299.x>
- GWSP (2014). [http://wef-conference.gwsp.org/fileadmin/documents\\_news/understanding\\_the\\_nexus.pdf](http://wef-conference.gwsp.org/fileadmin/documents_news/understanding_the_nexus.pdf)

- Hoff, H. (2011). Understanding the Nexus. Background Paper for the Bonn 2011 Conference: The Water, Energy and Food Security Nexus. Stockholm Environment Institute, Stockholm. Available at: <https://mediamanager.sei.org/documents/Publications/SEI-Paper-Hoff-UnderstandingTheNexus-2011.pdf>
- Institute for Economics and Peace (2021). Ecological threat report 2021. Understanding ecological threats, resilience and peace. Available from: <https://reliefweb.int/report/world/ecological-threat-report-2021-understanding-ecological-threats-resilience-and-peace>
- International Energy Agency (September 24, 2021). Number of people without access to electricity worldwide from 2000 to 2021, by region (in millions) [Graph]. In Statista. Retrieved November 08, 2021, Available from <https://www.statista.com/statistics/829803/number-of-people-without-access-to-electricity-by-region/>
- Kramer, A., Hensengerth O., Mertens, A. and A. Carius (2012). Assessment of RBO-Level Mechanisms for Sustainable Hydropower Development and Management. Vientiane, October 2012. <https://www.yumpu.com/en/document/view/24093314/assessment-of-rbo-level-mechanisms-for-sustainable-adelphi>
- LaB (2010). Fertilizers and their Impact on Watershed Ecology. Available at: <http://lab.visual-logic.com/2010/02/864/>
- LAS. The Water-Energy-Food Nexus in the Arab Region: Nexus Technology and Innovation Case Studies'. Available at: [https://uploads.water-energy-food.org/legacy/policy\\_briefs\\_6\\_english.pdf](https://uploads.water-energy-food.org/legacy/policy_briefs_6_english.pdf)
- Merrey, D. (2015). Critical Roles of Water in Achieving the Proposed SDGs: a Nexus Perspective (Water-Energy-Food-Climate Change). [PowerPoint presentation]. Available at: [https://sustainabledevelopment.un.org/content/documents/130191.3%20MERREY-Critical%20role%20of%20water-SDGs-Nexus\\_revised2.pdf](https://sustainabledevelopment.un.org/content/documents/130191.3%20MERREY-Critical%20role%20of%20water-SDGs-Nexus_revised2.pdf)
- WEF Nexus (2022). Nexus Concept // The Nexus Approach vs. IWRM – Gaining Conceptual Clarity: <https://www.water-energy-food.org/news/nexus-concept-the-nexus-approach-vs-iwrm-gaining-conceptual-clarity>
- OECD (2017). Multi-purpose Water Infrastructure. Recommendations to maximise economic benefits. Available at: [https://www.oecd.org/env/outreach/MPWI\\_Perspectives\\_Final\\_WEB.pdf](https://www.oecd.org/env/outreach/MPWI_Perspectives_Final_WEB.pdf)
- OECD-FAO (2021). Agricultural Outlook 2021-2030. Available from: <https://www.fao.org/3/cb5332en/cb5332en.pdf>
- Parsa et al. (2021). Intersection, interrelation or interdependence? The relationship between circular economy and nexus approach. Journal of Cleaner Production, Volume 313, 2021. Available at: <https://www.sciencedirect.com/science/article/pii/S0959652621020126>
- Purwanto, A., Susnik, J. Suryadi F.X. and C. de Fraiture (2021). Water-Energy-Food Nexus: Critical Review , Practical Applications, and Prospects for Furture Research. Sustainability 2021,13, 1919. Available at: <https://doi.org/10.3390/su13041919>
- Stockholm Environment Institute (SEI) (2017). Exploring connections between the Paris Agreement and the 2030 Agenda for Sustainable Development. Policy Brief, Stockholm.
- United Nations (2021). United Nations World Water Development Report 2021: Valuing Water. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000375724>
- United Nations General Assembly (2015). Transforming our world: the 2030 Agenda for Sustainable Development. Resolution adopted by the General Assembly on 25 September 2015.
- United Nations University (UNU) (2013). Water Security & the Global Water Agenda: A UN-Water Analytical Brief. Hamilton.
- U.S. Department of Energy (2006). Energy Demands on Water Resources. Report to Congress on the Interdependence of Energy and Water
- Water Technology. As-Samra Wastewater Treatment Plant, Jordan, Available at: <https://www.water-technology.net/projects/as-samra-wastewater-treatment-plant-jordan/>

Weitz, N., Nilsson, M. & Davis, M. (2014). A Nexus Approach to the Post-2015 Agenda: Formulating Integrated Water, Energy, and Food SDGs. SAIS Review of International Affairs, vol. 34, No. 2, Summer-Fall 2014, pp. 37-50

World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) (2021). Progress on household drinking water, sanitation and hygiene 2000-2020: Five years into the SDGs. Geneva. Available at: <https://www.unicef.de/informieren/materialien/report-sanitation-and-hygiene/250940>

## 5.1.2 Chapter 1.2: Water-Energy-Food Interactions

### Overall learning objectives

- Raise awareness that water, energy and food sectors are closely interlinked and interventions in one can create negative externalities in other sectors (trade-offs)
- Learn in detail about the interactions between the water, energy and food sector

### Timeframe / Duration:

50 min. (presentation & interactive questions)

### Chapter overview:

While chapter 1.1 provides a broad overview over the WEF-nexus, chapter 1.2 is dedicated to outlining the interactions and potential negative effects of activities in one sector on others ("trade-offs") in more detail. The chapter begins by outlining the interactions between the individual WEF-sectors (water for food, energy for water etc.). Each of these interactions is structured in the same way: 1) introductory slide, followed by description of how the respective resource is relevant for the other sector (e.g. where energy is needed in the water sector); 2) presentation of key numbers and statistics that underline the quantitative relevance of this interaction; 3) framing the nexus relevance of the respective interaction in a broader context, considering other WEF-nexus elements and, where relevant, highlighting linkages with environmental and climate components. Depending on the background of the participants of the training, the trainer can focus on individual interlinkages and present others only briefly or even leave them out.

The chapter ends with a placeholder slide for discussion to give participants the chance to ask questions and/or engage with them in a discussion about their experiences on the presented topic. The very last slide of chapter 1.2 summarizes the main aspects presented in the chapter.

Throughout the chapter, a number of slides with "quiz questions" were integrated to stimulate interaction with participants and keep them focused, as the presentation includes many numbers that may otherwise be hard to digest and relate to.



For online sessions, answers should be collected via an online application that allows to make presentations with real-time feedback interaction (such as menti.com). This is particularly important for online settings as it is significantly more difficult for participants to remain concentrated.



In an in-person setting these questions could also be posed verbally (or dropped altogether if necessary). In in-person settings the answers can either be collected verbally or also via an online tool if the number of participants is rather large.

### Background information

**International Energy Agency (IEA) (2016). Water Energy Nexus: Excerpt from the World Energy Outlook 2016. Paris France. Available at: <https://www.iea.org/reports/water-energy-nexus>**

This excerpt from the World Energy Outlook 2016 looks at the critical interplay between water and energy, with an emphasis on the stress points that arise as the linkages between these two sectors intensify. The analysis assesses the current and future freshwater requirements for energy production, highlighting potential vulnerabilities and key stress points. In addition, for the first time, the World Energy Outlook looks at the energy-for-water relationship, providing a first systematic global estimate of the energy requirements for different processes in the water sector, including water supply, wastewater treatment and desalination.

### References

- Billen, G., Garnier, J. & Lassaletta, L. (2013) 'The nitrogen cascade from agricultural soils to the sea: modelling nitrogen transfers at regional watershed and global scales', *Phil Trans R Soc B* 368: 20130123. <http://dx.doi.org/10.1098/rstb.2013.0123>
- FAO (2016). Energy, Agriculture and Climate Change. Towards energy-smart agriculture. Available at: <https://www.fao.org/3/i6382EN/i6382en.pdf>
- FAO, IFAD, UNICEF, WFP and WHO (2021). The State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy diets. Rome, FAO. Available at: <https://doi.org/10.4060/ca9692en>
- The Guardian (2011). What are bioenergy and biofuels – and are they a good idea?, 23 September 2011. Available at: <https://www.theguardian.com/environment/2011/sep/23/bioenergy-biofuels-climate-change-faq>
- Hoekstra, A.Y. & Mekonnen, M.M. (2012). The water footprint of humanity. *PNAS*, vol. 109, No. 9, pp. 3232-3237
- Howes, T. (IEA) (2021). Water data for the energy sector. Climate impacts on hydropower, Presentation.
- Institute for Economics and Peace (2021). Ecological threat report 2021. Understanding ecological threats, resilience and peace. Available from: <https://reliefweb.int/report/world/ecological-threat-report-2021-understanding-ecological-threats-resilience-and-peace>
- Institute for Energy Economics and Financial Analysis (IEEFA) (2018). Fact Sheet: IEA's „Sustainable Development Scenario“ best reflects our global energy future.
- International Energy Agency (IEA) (2016). Water Energy Nexus: Excerpt from the World Energy Outlook 2016. Paris France. Available at: <https://www.iea.org/reports/water-energy-nexus>
- International Energy Agency (IEA) (2018). World Energy Outlook 2018. Paris, France.
- International Energy Agency (IEA) (2020), 'World Energy Outlook 2020', Paris, France.
- International Energy Agency (September 24, 2021). Number of people without access to electricity worldwide from 2000 to 2021, by region (in millions) [Graph]. In Statista. Retrieved November 08, 2021, Available from <https://www.statista.com/statistics/829803/number-of-people-without-access-to-electricity-by-region/>
- International Renewable Energy Agency (IRENA) and Food and Agriculture Organization (FAO) (2021). Renewable energy for agri-food systems – Towards the Sustainable Development Goals and the Paris agreement', Abu Dhabi and Rome.
- Organization of the Petroleum Exporting Countries (OPEC) (2021). World Oil Outlook 2045. Vienna, Austria.
- Our World in Data (2021). How many people don't have access to electricity? [2021-11-23]. Available from: <https://ourworldindata.org/energy-access#access-to-electricity>
- United Nations (2021). United Nations World Water Development Report 2021: Valuing Water. Available from: <https://unesdoc.unesco.org/ark:/48223/pf0000375724>

United Nations Environment Programme (UNEP) (2015). Options for decoupling economic growth from water use and water pollution. Report of the International Resource Panel Working Group on Sustainable Water Management, Available from: <https://www.resourcepanel.org/reports/options-decoupling-economic-growth-water-use-and-water-pollution>

Umweltbundesamt (2013). Sustainable use of Global Land and Biomass Resources. Dessau-Roßlau.

Umweltbundesamt (2020-06-26). Bioenergie. Available at: <https://www.umweltbundesamt.de/themen/klima-energie/erneuerbare-energien/bioenergie#bioenergie-ein-weites-und-komplexes-feld->

World Bioenergy Association (WBA) (2013). Biofuels for Transport. Fact Sheet, Stockholm, Sweden.

World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) (2021). Progress on household drinking water, sanitation and hygiene 2000-2020: Five years into the SDGs. Geneva. Available from: <https://www.unicef.de/informieren/materialien/report-sanitation-and-hygiene/250940>

WWAP UNESCO World Water Assessment Programme (2019). World Water Development Report 2019: Leaving No One Behind', Paris, France.

### 5.1.3 Chapter 1.3: Water-Energy-Food Nexus Solutions

<b>Overall learning objectives</b>
<ul style="list-style-type: none"> <li>• Learn fundamentals of a WEF Nexus approach, focusing on solutions</li> <li>• Gain an overview of different solution types</li> <li>• Deepen the understanding along several examples</li> </ul>
<b>Timeframe / Duration:</b>
90 minutes (30minutes presentation and interaction + 60 minutes exercise)
<b>Chapter overview:</b>
<p>Chapter 1.3 focuses on the use of synergies and solutions that are clustered around different categories, including a) technical and engineering (included in chapter 1.1); b) nature-based solutions; and c) governance approaches. In the following, nature-based solutions and governance approaches are presented more generally as well as along 1-2 examples. It should be noted, that the governance instruments and procedures introduced in this chapter, are dealt with again in more detail in Module II, Chapter 2.2. Furthermore, as technical solutions had been introduced in chapter 1.1 they are not again listed in this chapter. However, depending on the structure of the training, the respective slides from chapter 1.1 could instead be presented here as well.</p> <p>The chapter concludes with an interactive exercise (Exercise 1.3: Reflection on Nexus solutions) that engages participants in identifying and discussing potential solutions to existing nexus challenges that they learned about in the first part of the training module (more information is provided in the handout for exercise 1.3).</p> <p>The final slide of the presentation summarizes the main points of chapter 1.3. This slide could be used to simultaneously summarize the points discussed during the final part of the exercise and the main learning objectives of this chapter.</p>
<b>Interactive exercise 1.3:</b>
<b>Reflections on Nexus solutions</b>



Learning objective:		
<ul style="list-style-type: none"> <li>• Reflect upon possible solutions to address nexus challenges identified in exercise 1.1</li> </ul>		
Time: 60 min		
<u>Level of complexity:</u> medium		
<u>Material:</u>		
<ul style="list-style-type: none"> <li>• Hand-outs (1 per group, 1 for instructor)</li> <li>• Pin boards + Markers / online boards (e.g. Miro) for online settings</li> </ul>		
Time	Step-by-step approach	<ul style="list-style-type: none"> <li>• Material</li> </ul>
	<u>Preparation phase:</u>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> <li>•</li> </ul>
10 min	<u>Briefing phase:</u>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
	<ul style="list-style-type: none"> <li>• Present the objectives of the exercise</li> <li>• Go through the different steps that are also explained in the hand-out</li> <li>• Leave time to answer questions</li> <li>• Break-up participants into the same groups as for exercise 1.1</li> <li>• Groups can use the prepared pin boards to collect their answers or collect their answers in the handouts first and copy them to the pinboard later while presenting it in the plenary</li> </ul>	
20 min	<u>Active phase</u>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
	<ul style="list-style-type: none"> <li>• Give time for the group to read the instructions on the hand-out</li> <li>• Give further instructions or input, where needed</li> </ul>	
20-30 min	<u>Debriefing phase:</u>	<ul style="list-style-type: none"> <li>• Pin boards</li> </ul>
	<ul style="list-style-type: none"> <li>• Each group presents their results to the plenary</li> <li>• Comparison of group results and further discussion in the plenum</li> </ul>	
<b>Background information</b>		
<p><b>Blumstein, S., Kramer, A. and A. Carius (2017), 'Coordination of Sectoral Interests in the Nexus between Water, Energy and Agriculture. Mechanisms and Interests in Germany'.</b></p> <p>This study analyses how coordination across different sectors and policy levels is implemented in Germany. In the first part, the study identifies general mechanisms for inter-ministerial and inter-sectoral coordination in the development of sectoral policies to handle conflicts of interests in the water-energy-food security Nexus. In the second part, the study looks at how such coordination has been achieved in the case of managing agricultural fertilisation and the amendment process of the fertiliser ordinance. In the final part, the study draws some general conclusions and reflects on the transferability of the results to other national contexts.</p>		

**GIZ (2019), 'Emerging lessons for mainstreaming Ecosystem-based Adaptation: Strategic entry points and processes'. Authors: Lili Ilieva and Thora Amend. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Bonn.**

This paper reflects the knowledge, experience and lessons learned of the many bright practitioners who have been leaders in the design, implementation and mainstreaming of ecosystem-based adaptation (EbA) measures around the world. The studies on "Entry points for EbA mainstreaming" have been carried out between 2017 and 2018 in the partner countries Mexico, Peru, South Africa, Viet Nam and the Philippines.

## References

- Abell, R., et al. (2017). Beyond the Source: The Environmental, Economic and Community Benefits of Source Water Protection. The Nature Conservancy, Arlington, VA, USA. Available at: [https://www.nature.org/content/dam/tnc/nature/en/documents/Beyond\\_The\\_Source\\_Full\\_Report\\_FinalV4.pdf](https://www.nature.org/content/dam/tnc/nature/en/documents/Beyond_The_Source_Full_Report_FinalV4.pdf)
- Avellan, C.T., Ardakanian, R. and P. Gremillion (2017). The role of constructed wetlands for biomass production within water-soil-waste nexus. In: Water Sci Technol (2017) 75 (10): 2237–2245. Available at: <https://iwaponline.com/wst/article/75/10/2237/29902/The-role-of-constructed-wetlands-for-biomass>
- Blumstein, S., Kramer, A. and A. Carius (2017). Coordination of Sectoral Interests in the Nexus Between Water, Energy and Agriculture. Mechanisms and Interests in Germany. Available at: [https://www.adelphi.de/en/system/files/mediathek/bilder/Nexus%20in%20Germany\\_03.pdf](https://www.adelphi.de/en/system/files/mediathek/bilder/Nexus%20in%20Germany_03.pdf)
- Climate Policy Initiative (2020-12-10), 'Where Does Brazil Stand with the Implementation of the Forest Code? A Snapshot of the CAR and the PRA in Brazil's States – 2020 Edition'. Available at: <https://www.climatepolicyinitiative.org/publication/where-are-we-at-implementing-the-forest-code-an-x-ray-of-the-car-and-the-pra-in-brazilian-states/>
- Da Silva Medina, G. (2019). Where are governments leading their agricultural sectors? Comparative lessons from agri-environmental measures promoted in the U.S., Europe and Brazil. Estudos Sociedade e Agricultura, vol. 27, no. 1, pp. 5-23, 2019. Available at: <https://www.redalyc.org/journal/5999/599962753001/html/>
- DFFE (2020). National Waste Management Strategy 2020. Available at: [https://www.dffe.gov.za/sites/default/files/docs/2020nationalwaste\\_managementstrategy1.pdf](https://www.dffe.gov.za/sites/default/files/docs/2020nationalwaste_managementstrategy1.pdf)
- GIZ (2019). Emerging lessons for mainstreaming Ecosystem-based Adaptation: Strategic entry points and processes. Authors: Lili Ilieva and Thora Amend. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Bonn.
- OECD (2008). Promoting Sustainable Consumption: Good Practices in OECD Countries', available at: <https://www.oecd.org/greengrowth/40317373.pdf>
- UN Environment Programme (2021-09-14), 'Why agricultural support must be reformed to work with nature', available at: <https://www.unep.org/news-and-stories/story/why-agricultural-support-must-be-reformed-work-nature>
- Waskom et al. (2014). U.S. Perspective on the Water-Energy-Food Nexus', Colorado Water Institute Completion Report No. 116, Available at: <https://watercenter.colostate.edu/wp-content/uploads/sites/33/2020/03/IS116.pdf>
- WWAP (United Nations World Water Assessment Programme)/UN-Water. 2018. The United Nations World Water Development Report 2018: Nature-Based Solutions for Water. Paris, UNESCO. <http://unesdoc.unesco.org/images/0026/002614/261424e.pdf>
- WWF (2016). Brazil's new Forest Code: A guide for decision-makers in supply chains and governments.

## 5.2 Module II - Institutions, processes and tools for institutionalizing the WEF Nexus

Module 2 focuses on how the WEF Nexus can be institutionalized in terms of governance structures, investment planning and financing as well as mainstreaming into projects and policies through various assessment tools.

### 5.2.1 Chapter 2.1: Assessing the Nexus – Assessment tools for decision support

#### Overall learning objectives

- Raise awareness on the fact that understanding of the nexus is the basis for decision-making and requires dialogue between science, policy, and stakeholders.
- Understand that assessments can be done with different objectives – understanding the Nexus context, existing synergies and trade-offs, predicting impacts of changes in the context on the nexus situation, and assessing the impact of nexus projects and interventions.
- Learn about a broad variety of assessment instruments that exist to assess the WEF Nexus situation and interlinkages in the natural resource base as well as governance frameworks.

#### Timeframe / Duration:

145 minutes (75 minutes presentation and interaction + 70 minutes exercise/ + 120 minutes alternative exercise)

#### Chapter overview:

The presentation begins with briefly outlining the main topic of module 2, namely integrating and anchoring the WEF Nexus approach, and highlighting the main learning objectives across the three chapters. This introduction is followed by an outline of the module and its three main chapters, that cover three sets of instruments that policy-makers can employ for mainstreaming the nexus: assessment tools, governance instruments and financing frameworks.

The presentation begins with taking up again the story of Ms Sinclair, highlighting how Nexus assessments can support making the right decision and demonstrating the expected benefits of Nexus projects.

This is followed by a short introduction to raise awareness on the fact that understanding of the nexus is the basis for decision-making and that getting a full understanding of the situation, challenges and opportunities, requires dialogue between science, policy, and stakeholders.

The next slide introduces the various scopes and objectives that assessments can take. This overview also explains the structure of the rest of the presentation which is divided into three parts: i) approaches for WEF Nexus context analyses, ii) tools for assessing impacts of changes, and iii) assessment of specific nexus interventions.

Before starting with the main contents of the chapter, participants are encouraged to share their experiences by answering a question about their knowledge of assessment tools and their use. This interaction with participants can either be realized via an online tool such as Mentimeter (in a virtual setting) or by directly asking participants and collecting their answers verbally or on a pin-board (in an in-person setting).

The presentation then gives an overview of different approaches to assessing WEF nexus systems. Here the trainer can make reference to the answers participants provided to the questions on the previous slide.

This is followed by highlighting relevant co-benefits of nexus assessments in terms of supporting coordination and cooperation.

The following 7 slides deal with context analysis. It first outlines what a nexus context analysis should encompass in order to get a full picture of the current nexus situation. Then selected examples of indicators that can be used to assess a) the nexus resources, sector performance, WEF security, and interlinkages are provided. This is followed by an example of a framework to assess nexus policy coherence, as another important component of the WEF nexus context. This section concludes with introducing the Transboundary River Basin Nexus Approach, that uses indicators and also analysis of governance settings and policies and has been applied in several basins to inform, support and promote transboundary cooperation. The analysis of the Sava basin is then given as an example.

The next sections deal with approaches to assess impacts that changes in the nexus context can have on the nexus situation. It then introduces a graphical visualisation approach used to provide information on nexus interlinkages and how they change, the approach can also be used as a basis for a qualitative participatory analysis. The next slide gives an introduction to the use of quantitative modelling tools and different approaches of modelling tools used to simulate the WEF nexus. The section ends with introducing the example of the Climate, Land use, Energy and Water Systems (CLEWs) framework that has been applied for modelling in a number of case studies at different scales from local to national, basin, regional and global. The example of Burkina Faso is then provided mainly to show a conceptual overview of CLEWs framework in this case and which components could be modelled in quantitative terms.

The final section of the presentation then looks at tools that have been developed to assess the impacts of specific interventions. It starts with the FAO Nexus Rapid Appraisal tool developed indexes based on indicators to assess different interventions in different settings and allows comparing different interventions. The 2<sup>nd</sup> example presented refers to the NRD 'List of indicators' for nexus projects. It explains the overall aim and set-up of the indicator list and summarises how it is to be applied. This also serves as the basis for the interactive exercise 2.1 (see below).

Before moving to the exercise part of the module, participants have the possibility to ask questions about the presented material. There is a placeholder slide for such a segment in the training materials. Depending on the overall outline of the training, the trainer may want to provide room for questions at an earlier stage already (especially in an online setting).

Chapter 2.1 concludes with an interactive exercise (see interactive exercise 2.1 below) which allows participants to think about the challenges in identifying the right indicators to assess nexus situations and impacts.

Alternatively, if time allows, a role play on a multi-purpose dam can be done that aims at developing indicators that integrate the point of view of other sectors. This role play takes about two hours.



**Interactive exercise 2.1:**

**Selecting nexus indicators**

Learning objective:

- Reflect on appropriate indicators to measure and demonstrate the impacts of WEF nexus projects and to discuss the related challenges in finding the right indicators and relevant data sources.

Time: 70 min

Level of complexity: medium to high

Material:

- Hand-outs (1 per group, 1 for instructor)
- Print-out/ file of NRD Nexus indicator list (1 per group, 1 for instructor)
- Pin boards + Markers / online boards (e.g. Miro) for online settings

Time	Step-by-step approach	Material
	<p><u>Preparation phase:</u></p> <p>The exercise starts with identifying an own nexus project, this could also build on the exercises done before by working on one of the solutions discussed there or by using one of case studies from Module III as a basis. If time is short, the exercise can be done using the project example given in the Hand-out. Groups can then each develop indicators and later compare them in the plenary discussion</p> <ul style="list-style-type: none"> <li>• Prepare one pin board for each working group with the respective points to be addressed in the two steps of the exercise (compare example in hand-out)</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
10 min	<p><u>Briefing phase:</u></p> <ul style="list-style-type: none"> <li>• Present the objectives of the exercise</li> <li>• Go through the different steps that are also explained in the handout</li> <li>• Leave time to answer questions</li> <li>• Break-up participants into groups (3-5 people)</li> <li>• Groups can use the prepared pin boards to collect their answers or collect their answers in the handouts first and copy them to the pinboard later while presenting it in the plenary</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
40 min	<p><u>Active phase</u></p> <ul style="list-style-type: none"> <li>• Give time for the group to read the instructions on the hand-out</li> <li>• Give further instructions or input, where needed</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• NRD Indicator List</li> <li>• Pin boards</li> </ul>

20 min	<p><u>Debriefing phase:</u></p> <ul style="list-style-type: none"> <li>• Each group presents their results to the plenary</li> <li>• Comparison of group results and further discussion in the plenum</li> </ul>	<ul style="list-style-type: none"> <li>• Pin boards</li> </ul>
<b>Background information</b>		
<p><b>Flammini et al. (2014), 'Walking the Nexus Talk: Assessing the Water-Energy-Food Nexus in the Context of the Sustainable Energy for All Initiative', FAO.</b></p> <p>This report proposes a way to carry out a water-energy-food nexus assessment in order to: a) understand the interactions between water, energy and food systems in a given context, and b) evaluate the performance of a technical or policy intervention in this given context. The ultimate goal of the Water-Energy-Food (WEF) nexus assessment is to inform nexus-related responses in terms of strategies, policy measures, planning and institutional set-up or intervention. Part a) of the assessment focuses on the context analysis. Following the context analysis, a number of problem-specific tools are suggested for a more in- depth, quantitative analysis of the impacts of different resource uses and for the development of scenarios and strategic visions. Part b) of the assessment looks specifically at the performance of technical and policy interventions in terms of resource use efficiency and productivity. Importantly, the performance of interventions should be also assessed versus the nexus context status. A set of basic indicators is proposed, out of which the final selection should take place in consultation with stakeholders. It is also possible to compare different interventions, based on how efficiently they make use of water, energy, food/ land, employment and financial capital</p> <p><b>UNECE (2018): 'Methodology for assessing the water-food-energy-ecosystems nexus in transboundary basins and experiences from its application: synthesis'.</b></p> <p>This publication presents the consolidated methodology for assessing intersectoral links, trade-offs and benefits in managing transboundary basins by cooperating across borders and sectors, that was developed by UNECE over several years. The methodology provides a flexible, generic and open framework that can be adapted adapts to the context and issues at stake, and applies fit-for-purpose tools. The report further describes in some detail the assessment methodology's application and contains lessons focusing on the nexus assessment process, on the methodology involved in the process, and on taking the process forward. Furthermore, it includes a review of analytical frameworks and tools applicable for analysing transboundary nexus issues.</p> <p><b>Pereira Ramos et al. (2021): 'The climate, land, energy, and water systems (CLEWs) framework: a retrospective of activities and advances to 2019'.</b></p> <p>The 'Climate-, Land-, Energy- and Water-systems' (CLEWs) framework assists the exploration of interactions between (and within) CLEW systems via quantitative means. The paper focusses on the development and application of the CLEWs framework but in doing so discusses general questions such as differences in terms of geographic scope and temporal scales, purpose, interactions represented, analytical approach and stakeholder involvement. The paper further details the main steps of the CLEWs framework, and summarises and compares key applications. The paper delivers recommendations for the future development of the framework, as well as keys to success in this type of evaluations.</p> <p><b>Endo et al. (2015): 'Methods of the water-energy-food nexus'.</b></p> <p>This paper focuses on a collection of methods that can be used to analyze the water-energy-food (WEF) nexus. It classifies these methods as qualitative or quantitative for interdisciplinary and transdisciplinary research approaches. The methods can be used to unify a collection of related</p>		

variables, visualize the research problem, evaluate the issue, and simulate the system of interest. The paper discusses each of these methods.

### References

- Daher, B., Saad, W., Pierce, S.A., Hülsmann, S. & Mohtar, R.H. (2017), 'Trade-offs and Decision Support Tools for FEW Nexus-Oriented Management', *Curr Sustainable Renewable Energy Rep*, vol. 4, Iss. 3, pp. 153-159.
- de Strasser, L., Lipponen, A., Howells, M., Stec, S., Bréthaut, C. (2016), 'A Methodology to Assess the Water Energy Food Ecosystems Nexus in Transboundary River Basins', *Water*, vol. 8, Iss. 2, 59. doi:10.3390/w8020059.
- Department of Energy Technology (n.d.), 'CLEWs - Climate, Land, Energy and Water strategies to navigate the nexus', KTH Royal Institute of Technology, Available from: <https://www.kth.se/en/itm/inst/energiteknik/forskning/desa/researchareas/clews-climate-land-energy-and-water-strategies-to-navigate-the-nexus-1.432255>
- Flammini, A., Puri, M., Pluschke, L. & Dubois, O (2014), 'Walking the Nexus Talk: Assessing the Water-Energy-Food Nexus in the Context of the Sustainable Energy for All Initiative', Food and Agriculture Organization of the United Nations, Rome.
- Hermann, S., Welsch, M., Segerstrom, R. E., Howells, M. I., Young, C., Alfstad, T., Rogner, H.-H. and Steduto, P. (2012), 'Climate, land, energy and water (CLEW) interlinkages in Burkina Faso: An analysis of agricultural intensification and bioenergy production', *Natural Resources Forum*, vol. 36, Iss. 4, pp. 245–262. doi:10.1111/j.1477-8947.2012.01463.x
- Meza, F.J., Vicuna, S., Gironás, J., Poblete, D. Suárez, F. & Oertel, M. (2015), 'Water–food–energy nexus in Chile: the challenges due to global change in different regional contexts', vol. 40, Nos. 5-6, pp. 839-855. doi: 10.1080/02508060.2015.1087797. Available at: [https://www.researchgate.net/publication/283172261\\_Water-food-energy\\_nexus\\_in\\_Chile\\_the\\_challenges\\_due\\_to\\_global\\_change\\_in\\_different\\_regional\\_contexts](https://www.researchgate.net/publication/283172261_Water-food-energy_nexus_in_Chile_the_challenges_due_to_global_change_in_different_regional_contexts)
- Munaretto et al 2017: Deliverable D2.1 water-land-energy-food-climate nexus: policies and policy coherence at European and international scale. SIM4NEXUS <https://www.sim4nexus.eu/page.php?wert=Projectoverview>
- Nilsson, M., Zamparutti, T., Petersen, J. E., Nykvist, B., Rudberg, P., & McGuinn, J. (2012). Understanding policy coherence: analytical framework and examples of sector–environment policy interactions in the EU. *Environmental policy and governance*, 22(6), 395-423.
- Nilsson, M., D. Griggs and M. Visbeck (2016), "Map the interactions between Sustainable Development Goals", *Nature*, Vol. 584, pp. 320-322, <http://dx.doi.org/10.1038/534320a>
- OECD 2018: Policy Coherence for Sustainable Development 2018. <https://doi.org/10.1787/9789264301061-en>
- Pereira Ramos et al 2021 The climate, land, energy, and water systems (CLEWs) framework: a retrospective of activities and advances to 2019 *Environ. Res. Lett.* **16**. <http://dx.doi.org/10.1088/1748-9326/abd34f>. Available at [https://www.researchgate.net/publication/347630626\\_The\\_Climate\\_Land\\_Energy\\_and\\_Water\\_systems\\_CLEWs\\_framework\\_a\\_retrospective\\_of\\_activities\\_and\\_advances\\_to\\_2019](https://www.researchgate.net/publication/347630626_The_Climate_Land_Energy_and_Water_systems_CLEWs_framework_a_retrospective_of_activities_and_advances_to_2019)
- UNECE 2018: Methodology for assessing the water-food-energy-ecosystems nexus in transboundary basins and experiences from its application: synthesis. Geneva: UNECE. Available at: [http://www.unece.org/fileadmin/DAM/env/water/publications/WAT\\_55\\_NexusSynthesis/ECE-MP-WAT-55\\_NexusSynthesis\\_Final-for-Web.pdf](http://www.unece.org/fileadmin/DAM/env/water/publications/WAT_55_NexusSynthesis/ECE-MP-WAT-55_NexusSynthesis_Final-for-Web.pdf)

## 5.2.2 Chapter 2.2: Governing the Nexus

### Overall learning objectives

- Raise awareness that addressing WEF Nexus trade-offs and synergies requires policy-making across sectoral and institutional lines as well as across different scales
- Learn about possible ways of anchoring Nexus process through institutionalized coordination across sectors and scales of governance

#### Timeframe / Duration:

140 minutes (70 minutes presentation and interaction + 70 mins exercise)

#### Chapter overview:

In the outline, chapter 2.2 starts with explaining that two broader sets of policy tools are introduced in the presentation. These include 1) institutionalized instruments to improve coordination and collaboration across different sectoral lines as well as across different government levels and 2) Regulatory and economic policy instruments to incentivize WEF nexus solutions.

The actual content part of chapter 2.2 then begins with introducing the needs for and objectives of horizontal and vertical coordination between different sectors and governance entities which is required for managing the highly interconnected WEF nexus sectors. Following this brief introduction, participants are encouraged to share their experiences by answering a question about their experiences with instruments/mechanisms for realizing horizontal and vertical policy coordination in their national context. This interaction with participants can either be realized via an online tool such as Mentimeter (in a virtual setting) or by directly asking participants and collecting their answers verbally (in an in-person setting).

This round of interactive questioning happens before the training introduces specific governance mechanisms and tools in order to sensitize participants about the fact that in every governance contexts, such mechanisms and instruments are already present and often provide a good starting point to further expand and deepen collaboration and integration across different sectors and governance levels.

The chapter then continues by outlining different types and degrees of coordination that can be described along a continuum from “absence of (any) coordination” all the way to “strategic coordination” which correspond to different ways of managing WEF-related trade-offs and potential conflicts that may arise from not or inadequately addressing these.

The chapter then moves on with two slides that outline how horizontal and vertical coordination across sectors and different governance levels can be achieved by categorizing different types of institutional options that can be utilized.

This brief theoretical introduction is followed by a range of real-world case studies. While most of the examples presented either emphasize managing coordination cross horizontal OR vertical lines, most of them work, at least to some degree, in both directions. It was hence decided, to not distinguish between the two categories but instead present them jointly.

The final section of the presentation then moves beyond the topic of institutions for coordination and presents selected policy instruments that can be employed to incentivize nexus solutions. Similarly to institutions that help to coordinate interest across vertical and horizontal lines, policy instruments are important tools that policy makers can employ to institutionalize the WEF Nexus. The focus here is put on policy option that incentivize resource efficiencies as this is a major WEF Nexus objective. The two categories include regulatory and economic instruments that are

illustrated along two case study examples. It needs to be noted, that the portfolio of possible policy instruments is much broader than presented here. For instance, tools comprising communication and information sharing, such as awareness campaigns or resource related certification & labelling schemes, could also be useful instruments for promoting cross-sectoral resource-efficiency objectives. There are multiple other policy tools which, however, cannot be presented in their entirety, as this would exceed the scope of this training.

Before moving to the exercise part of the module, participants once more have the possibility to ask questions about the presented material. There is a placeholder slide for such a segment in the training materials. Depending on the overall outline of the training, the trainer may want to provide room for questions at an earlier stage already (especially in an online setting).

Chapter 2.2 concludes with an interactive exercise (see interactive exercise 2.2 below) which encourages participant to analyze policy instruments that regulate the use of WEF resources in their own regional context.



**Interactive exercise 2.2:**

**Nexus Policy Analysis**

Learning objective:

- Reflect on the policies and policy instruments that regulate resource use in the WEF sectors within participants' own national contexts and develop ideas to address these

Time: 70 min

Level of complexity: medium to high

Material:

- Hand-outs (1 per group, 1 for instructor)
- Pin boards or online boards (e.g. Miro) for online settings
- Markers

Time	Step-by-step approach	Material
	<p><u>Preparation phase:</u></p> <ul style="list-style-type: none"> <li>• Prepare one pin board for each working group with the respective points to be addressed in the two steps of the exercise (compare handout in Annex 3)</li> <li>• If participants are not policy makers (but e.g. technical experts) the trainer should consider to choose an example for participants</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
10 min	<p><u>Briefing phase:</u></p> <ul style="list-style-type: none"> <li>• Present the objectives of the exercise</li> <li>• Go through the different steps that are also explained in the handout</li> <li>• Leave time to answer questions</li> <li>• Break-up participants into groups (3-5 people)</li> <li>• Groups can use the prepared pin boards to collect their answers or collect their answers in the handouts first and copy</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>

	them to the pinboard later while presenting it in the plenary	
30 min	<p><u>Active phase</u></p> <ul style="list-style-type: none"> <li>• Give time for the group to read the instructions on the hand-out</li> <li>• Give further instructions or input, where needed</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
20-30 min	<p><u>Debriefing phase:</u></p> <ul style="list-style-type: none"> <li>• Each group presents their results to the plenary</li> <li>• Comparison of group results and further discussion in the plenum</li> </ul>	<ul style="list-style-type: none"> <li>• Pin boards</li> </ul>

**Background information**

**Peters, B. G. (2018). The challenge of policy coordination, Policy Design and Practice, 1:1, 1-11. Available at: <https://doi.org/10.1080/25741292.2018.1437946>**

Policy coordination is one of the oldest challenges for governments but has become even more important as the problems confronting governments change, and the ideas of “New Public Management” are diffused. This paper examines the causes for coordination problems and the mechanisms that may be available for improving coordination. It concludes by discussing the limits on coordination as a solution for the problems of governing.

**Weitz, N., Strambo, C., Kemp-Benedict, E. and M. Nilsson (2017). Governance in the Water-Energy-Food Nexus: Gaps and Future Research Needs. Stockholm Environment Institute. Working Paper No. 2017-07. Available at: <https://www.sei.org/publications/water-energy-food-governance/>**

This paper explores how the nexus literature addresses governance. It identifies critical gaps that need to be filled by future research. Through an informed, but not exhaustive, review of the nexus literature, the paper identifies three issues that are not addressed: (i) the conditions under which cross-sector coordination and collaboration come about; (ii) the dynamics beyond cross-sector interactions that influence decision-making and policymaking in the nexus; and (iii) the role of political and cognitive factors as determinants of change in the nexus. The paper highlights future research needs, encouraging the nexus community to connect with the wealth of theoretical and conceptual perspectives in the governance community. More specifically, it proposes exploring how the literature on integrative environmental governance could help fill these gaps.

**Scott, A. (2017). Making governance work for water-energy-food nexus approaches. Climate and Development Knowledge Network (CDKN). Working Paper. Available at: <https://cdkn.org/resource/working-paper-making-governance-work-water-energy-food-nexus-approaches>**

The concept of the water–energy–food (WEF) nexus has become widely used to help understand interdependencies among the three systems, and how they can be managed sustainably to meet growing demand. The WEF nexus has especially been advocated to address conflicts among the sectors. However, governance in the WEF nexus has not received much attention in the literature, particularly the institutions and politics governing the WEF sectors. This paper synthesises findings from CDKN-supported research that has sought to improve understanding of how governance affects the effectiveness of nexus approaches – that is, approaches that understand the links between sectors, recognise these in decision-making and promote integrated policy-making. The

paper draws from findings in Indonesia and Kenya to show that the effectiveness of the horizontal (cross-sectoral) and vertical (between levels of government) coordination that is essential for a nexus approach is determined by institutional relationships, which can be influenced by political economy factors. The capacity of governing organisations to understand nexus links and to collaborate with each other is also critical. The paper suggests that aiming for the ideal of comprehensiveness and integration in a nexus approach may be costly and impractical. Nevertheless, horizontal and vertical coordination are essential. Local-level decision-making will determine how trade-offs and synergies in the WEF nexus are implemented. The capacities of local government organisations and decision-makers need to be strengthened to enhance their capacity to adopt nexus approaches and coordinate vertically.

## References

- Bellfield, H. (2015) Water, Energy and Food Security Nexus in Latin America and the Caribbean. Global Canopy Programme.
- Blumstein et al. (2017). Coordination of Sectoral Interest in the Nexus Between Water, Energy and Agriculture. Mechanisms and Interest in Germany. Available at: [https://www.adelphi.de/en/system/files/mediathek/bilder/Nexus%20in%20Germany\\_03.pdf](https://www.adelphi.de/en/system/files/mediathek/bilder/Nexus%20in%20Germany_03.pdf)
- Brears, R.C. (2018). The Green Economy and the Water-Energy-Food Nexus. Palgrave Macmillan. Available at: <https://refubium.fu-berlin.de/bitstream/handle/fub188/17904/pp715-water-energy-food-nexus.pdf?sequence=1&isAllowed=y&save=y>
- California Environmental Protection Agency (CalEPA): Climate Action. Available at: <https://calepa.ca.gov/climate-action/>
- GIZ (2017), 'The Urban Nexus Guide - Module 3: Strengthening Horizontal and Vertical Governance Structures', [Powerpoint presentation].
- Green Building Standard information provided on the website of the Ministry of Environmental Protection: [https://www.gov.il/en/departments/guides/standards\\_in\\_israel](https://www.gov.il/en/departments/guides/standards_in_israel)
- Huber-Lee & Handly (2019), 'The water-energy nexus: comparing how Los Angeles and Beijing integrate policies across sectors', SEI policy brief. Stockholm Environment Institute, US Center, Davis, CA.
- California Environmental Protection Agency (CalEPA): <https://calepa.ca.gov/climate-action/>
- Jänicke, M. (2013). Accelerators of Global Energy Transition: Horizontal and Vertical Reinforcement in Multi-Level Climate Governance. IASS Working Paper. Available at: [https://www.polsoz.fu-berlin.de/polwiss/forschung/systeme/ffu/files/working\\_paper\\_accelerators\\_of\\_global\\_energy\\_transition\\_4.pdf](https://www.polsoz.fu-berlin.de/polwiss/forschung/systeme/ffu/files/working_paper_accelerators_of_global_energy_transition_4.pdf)
- Jordanian Ministry of Water and Irrigation (2022) Who's Who in Jordan's Energy, Water & Environment. Available at: <https://www.jordanewe.com/about-sector/ministry-water-and-irrigation>
- Ministry of Water and Irrigation, Hashemite Kingdom of Jordan (2016). National Water Strategy of Jordan, 2016-2025. Available at: <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC156264/>
- Naranjo & Willaarts (2020). Guía metodológica: Diseño de acciones con enfoque del Nexo entre agua, energía y alimentación para países de América Latina y el Caribe. En Recursos naturales y desarrollo, número 197.
- SADC (2019). Proposed SADC Water-Energy-Food (WEF) Nexus Framework. December 2019, Gaborone, Botswana.
- Sixt, G.N.; Strambo, C.; Zhang, J.; Chow, N.; Liu, J.; Han, G. Assessing the Level of Inter-Sectoral Policy Integration for Governance in the Water-Energy Nexus: A Comparative Study of Los Angeles and Beijing. *Sustainability* **2020**, *12*, 7220. <https://doi.org/10.3390/su12177220>

Vollebergh, H. and Dijk, J. (2016). Taxes and fees of regional water authorities in the Netherlands. Available at: <https://ieep.eu/uploads/articles/attachments/97385961-1e5d-4967-bed5-51a6e57a9cfb/NL%20Water%20Taxes%20Fees%20final.pdf?v=63680923242>

Webinar „The Future of California's Water Energy Climate Nexus”, Pacific Institute, 29 September 2021: <https://pacinst.org/video/the-future-of-californias-water-energy-climate-nexus/>

## 5.2.3 Chapter 2.3: Cross-sectoral investment planning and financing

### Overall learning objectives

- Learn which methods can help demonstrating the economic added value of Nexus solutions in order to guide cross-sectoral investment planning, and more specifically to prioritize Nexus investments
- Gain an overview on which funding sources and delivery pathways are available to support multisectoral programmes or projects
- Reflect on how to mobilize finance to implement Nexus solutions. More specifically, learn how Nexus can be a strategic means to access finance in general and climate finance in particular.

### Timeframe / Duration:

140 minutes (45 minutes presentation and interaction + 95 minutes exercise)

### Chapter overview:

The presentation begins with taking up again the story of Ms Sinclair, highlighting how she asks herself the following questions:

- What is the economic added value of our proposed WEF Nexus solution? How can we measure this?
- What financing sources are available to support this type of multisectoral programmes or projects?

This leads to explaining the motivation behind this chapter to participants: a crucial aspect to enable implementation of WEF Nexus solutions is to demonstrate their clear economic added value, as compared to traditional, sectoral approaches. This slide can be used to explain the structure of the rest of the presentation, which is divided into three parts: i) after introducing some important definitions, the first main question will be addressed in part ii) introducing methods to demonstrate the economic added value of Nexus solutions. Part iii) will give an overview of financing sources and how to mobilize finance to implement Nexus solutions.

The next slides give some context on sectoral investments in the three WEF Nexus sectors (slide 6) and introduce definitions of the main notions that will be used in this chapter when speaking about „cross-sectoral investment planning and financing”, more specifically: 1) explaining the notion of “investment plan” and main points to be taken into account in a cross-sectoral context (slide 7); 2) explaining how project prioritisation is a crucial step of investment planning and naming methods that can help prioritising and selecting nexus solutions (slide 8); 3) explaining the notion of “financing” and what it implies in the nexus context (slide 9).

Having set these definitions, the next part of this chapter takes a closer look at how to demonstrate the economic added value of Nexus solutions by presenting different methods that can be used to evaluate and demonstrate their economic added value. More specifically, it describes how Cost Benefit Analysis (CBA), Cost Effectiveness Analysis and Multi-Criteria Analysis (MCA) can be used to assess the added value of nexus solutions, and how results of these may be used when presenting the business case of Nexus solutions. The next slide presents the WEF Nexus selection criteria toolbox, which contains criteria that can be used when conducting a CBA or a MCA. Following this, participants are encouraged to ask questions about the methods presented and to share any experience they have with some of these methods in their own professional/regional context.

The third part of this chapter then turns to the question of how to mobilize finance to implement Nexus solutions. It starts with a slide giving an overview of the main benefits from adopting a Nexus approach for mobilizing finance, more specifically explaining: 1) how a Nexus approach opens up new financing opportunities and helps to make the best economic use of financial resources available; 2) how a Nexus approaches catalyses the implementation of integrated solutions that are both environmentally sustainable and bankable, compared to sectoral solutions; 3) how the aspect of coordination underlying a Nexus approach is crucial to de-risk investments and how this is reflected in the fact that finance providers are increasingly concerned with cross-sectoral coherence.

The presentation then gives an overview of funding sources and pathways and explains which financing schemes seem particularly well suited to deliver multiple benefits from a nexus perspective. It also explains how a nexus approach could open up new financing opportunities, in particular from the private sector.

The last part of the chapter explains how a Nexus approach can be a strategic means to access finance. It starts with explaining that finance providers are increasingly concerned with cross-sectoral coherence and what this implies for finance recipients. It explains how a Nexus approach can help fulfilling sustainability criteria, hereby encouraging investors to engage, and takes a closer look at the EU Taxonomy and other international standards (Global Reporting Initiative, Carbon Disclosure Project, International Finance Cooperation) aiming at steering investments towards environmentally sustainable economic activities. The last slides focus on why Nexus projects can be interesting to access climate funding. This starts with giving a short overview on the international climate funding landscape and its channels, including three regional slides that can be adapted to the different regional training contexts (MENA, LAC, Sub-Saharan Africa). Then, the Green Climate Fund is presented more in details, explaining how Nexus projects can help fulfill its investment criteria.

Before moving to the exercise part of the module, participants have the possibility to ask questions about the presented material. There is a placeholder slide for such a segment in the training materials.

Chapter 2.3 concludes with an interactive exercise (see interactive exercise 2.3 below) which allows participants to think about opportunities and criteria to access funding for the implementation of WEF nexus projects.



### **Interactive exercise 2.3:**

#### **Pitching your Nexus project**

<p><u>Learning objective:</u></p> <ul style="list-style-type: none"> <li>• Get an insight into funding opportunities for the implementation of WEF Nexus projects</li> <li>• Deepens understanding regarding selection criteria of international donors and modalities for accessing funding sources</li> </ul>		
<p><u>Time:</u> 95 min (depends on the number of working groups)</p>		
<p><u>Level of complexity:</u> medium</p>		
<p><u>Material:</u></p> <ul style="list-style-type: none"> <li>• Hand-outs (1 per group, 1 for instructor)</li> <li>• Pin boards + Markers / online boards (e.g. Miro) for online settings</li> </ul>		
Time	Step-by-step approach	Material
	<p><u>Preparation phase:</u></p> <p>The exercise starts with identifying an own nexus project in order to pitch it to one of the funding sources indicated in the hand-out. This could also build on the exercises done before by working on one of the solutions discussed there or by using one of case studies from Module III as a basis.</p> <p>Prepare one pin board for each working group with the respective points to be addressed in the step 1 of the exercise (compare table 2 in hand-out).</p>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
10 min	<p><u>Briefing phase:</u></p> <ul style="list-style-type: none"> <li>• Present the objectives of the exercise</li> <li>• Go through the different steps that are also explained in the handout</li> <li>• Leave time to answer questions</li> <li>• Break-up participants into groups (3-5 people)</li> </ul> <p>Groups can use the prepared pin boards to collect their answers or collect their answers in the handouts first and copy them to the pinboard later while presenting it in the plenary.</p>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
45 min	<p><u>Active phase</u></p> <ul style="list-style-type: none"> <li>• Give time for the group to read the instructions on the hand-out Give further instructions or input, where needed</li> </ul>	<ul style="list-style-type: none"> <li>• Hand-outs</li> <li>• Pin boards</li> </ul>
40 min	<p><u>Debriefing phase:</u></p> <ul style="list-style-type: none"> <li>• Each group presents their results to the plenum</li> <li>• Short feedback and discussion after each pitch in the plenum</li> </ul>	<ul style="list-style-type: none"> <li>• Pin boards</li> </ul>

**Background information****European Commission, 'FAQ: What is the EU Taxonomy and how will it work in practice?'**

The purpose of this FAQ document is to answer some of the questions that stakeholders often ask Commission services about the EU Taxonomy and its draft Delegated Act. The first part includes an overview on what the EU Taxonomy and its Delegated Act is, why it is needed, which sectors and activities are covered, and how it fits into other sustainable frameworks. The second part elaborates the manifold relations between the EU Taxonomy and companies making use of it. The third part focusses on processes and further policy developments.

**FAO & UNDP (2020), 'Assessing agroforestry practices and soil and water conservation for climate change adaptation in Kenya: A cost-benefit analysis', Rome, FAO.**

In this study, researchers used a cost-benefit analysis to analyse the financial and economic worthiness of agriculture adaptation measures in Kenya. The analysis helps to identify solutions – either policy options or investment projects – for an efficient allocation of scarce financial resources by comparing alternative projects and policies, then indicating whether financial resources should be allocated to support a specific option. The objectives of the study were to identify priority climate change adaptation measures practised by smallholder farmers in Kenya and describe their application, including costs incurred and benefits realized. Secondly, the study aims to build a solid dataset of costs and benefits of the identified priority CC adaptation options for the Kenyan agriculture sector using a representative survey data set and relevant secondary data sources. Finally, it undertakes a CBA of identified adaptation strategies to assess their financial worthiness at the farm level and economic worthiness from a national perspective. The study's findings can inform policy makers and development practitioners involved in formulating and implementing the National Adaptation Plan process.

**Fayolle, V. and Odianose, S. (2017), 'Green Climate Fund Proposal toolkit 2017: Toolkit to develop a project proposal for the GCF', London: Acclimatise and Climate and Development Knowledge Network.**

This publication provides a toolkit that helps governments and project developers understand how to fulfill the Green Climate Fund's requirements when developing a fully-fledged funding proposal. It sets out a step-by-step guide on how to prepare a project proposal for the GCF. This includes a first section lining out basic information which are essential to know before developing a GCF project. Followed by sections on key project design elements and a template for GCF proposals, the toolkit goes into detail on how to put together a GCF funding proposal. The manual closes with contents on the GCF project cycle, starting tips and available support for the full proposal preparation.

**GIZ (2018), 'The GIZ Finance Guide: Navigating the world of finance', Eschborn.**

The Finance Guide is an introduction to the basics of commercial finance and investment in the context of development cooperation. The objective is to enable readers with limited or no prior exposure to finance topics to understand some key aspects in the public and private sector. Given the increasing importance of mobilizing private capital for development purposes, the Finance Guide is intended to provide orientation to GIZ staff when considering the role of commercial finance in designing and implementing technical-assistance programs. In addition, when working with implementing partners or businesses looking for finance, the reader will be able to assume a more substantial role in supporting such local partners and entrepreneurs in developing bankable and investment-ready projects or businesses. Finally, the guide will help readers interact and communicate with financial-sector entities by providing the relevant concepts and terminology.

**UNECE (2021), 'Solutions and investments in the water-food-energy-ecosystems nexus: A synthesis of experiences in transboundary basins', Geneva.**

This publication takes stock of accumulated experience, especially within water institutions, on the design, implementation and financing of nexus solutions to address common water and environment challenges in transboundary basins. The accumulated experience is drawn from basin-level case studies and regional dialogues of transboundary relevance in Africa, Asia, the Americas and Europe. The case studies were analysed to draw preliminary conclusions on common features and trends related to problems and solutions, financing sources and schemes, obstacles to implementation and enabling factors, as well as perceived added value and benefits. Thus, this publication provides a valuable knowledge base for designing and operationalizing nexus solutions and investments, and includes consideration of factors that contributed to their successful implementation and the challenges encountered. It aims to help governmental authorities and other actors better understand the potential of the nexus approach and to take the next steps.

**UNFCCC (2012), 'Assessing the costs and benefits of adaptation options: An overview of approaches', The Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change, UNFCCC Secretariat, Bonn, Germany.**

This publication has been developed under the Nairobi work programme on impacts, vulnerability and adaptation to climate change, and provides an introduction to a range of different assessment approaches and methodologies and shares best practices and lessons learned. It builds upon activities and contributions from the Nairobi work programme and its partners. This publication aims to elaborate on the role and purpose of assessing the costs and benefits of adaptation options in the adaptation process. It further introduces a range of key methodological issues and explains the most commonly used assessment approaches. Finally, the publication describes lessons learned and good practices.

## References

- Altamirano, M. A., van Bodegom, A. J., van der Linden, N., de Rijke, H., Verhagen, A., Bucx, T., ... & van der Zwaan, B. (2018), 'Operationalizing the WEF nexus: quantifying the trade-offs and synergies between the water, energy and food sectors', Dutch Climate Solutions research programme (No. E--18-036). ECN.
- Antea Group (2017), 'Multi-sectoral investment plan for adaptation to coastal risks induced by climate change in Benin: Final report', Belgium.
- Bizikova, L., Roy, D., Venema, H. D., McCandless, M., Swanson, D., Khachtryan, A., ... & Zubrycki, K. (2014), 'Water-energy-food nexus and agricultural investment: a sustainable development guidebook', International Institute for Sustainable Development (IISD), available at: [https://www.iisd.org/system/files/publications/WEF\\_guidebook.pdf](https://www.iisd.org/system/files/publications/WEF_guidebook.pdf)
- ClifIT Training Materials [PowerPointPresentation], 'Module 3: Project development and the Green Climate Fund (GCF)'.
- ClifIT (2014), 'Project Pipeline Development'. Training materials. adelphi for ClifIT: <https://clifit.org/>
- Climate Funds Update (CFU) (2022-02-04), 'CFU – Climate Finance Recipients', available at: [https://public.tableau.com/app/profile/carl.roberts/viz/CFU-Climatefinancerecipients\\_16068528505010/Recipientsbubblechart](https://public.tableau.com/app/profile/carl.roberts/viz/CFU-Climatefinancerecipients_16068528505010/Recipientsbubblechart)
- Climate Funds Update (CFU), 'Green Climate Fund', available at: <https://climatefundsupdate.org/the-funds/green-climate-fund/>
- Crawford, A. & Church, C. (2019), 'Engaging the private sector in National Adaptation Planning Processes', Winnipeg, Canada: International Institute for Sustainable Development. Retrieved from [www.napglobalnetwork.org](http://www.napglobalnetwork.org)

- DeLaquil, Pat; Delgado Martin, Anna; Rodriguez, Diego Juan; Sohns, Antonia Averill. Thirsty energy (English). Water papers Washington, D.C. : World Bank Group.  
<http://documents.worldbank.org/curated/en/835051468168842442/Thirsty-energy>
- European Commission ,FAQ: What is the EU Taxonomy and how will it work in practice?'.  
 European Commission, 'EU Taxonomy Compass: Sectors', available at: [https://ec.europa.eu/sustainable-finance-taxonomy/activities/sectors\\_en.htm](https://ec.europa.eu/sustainable-finance-taxonomy/activities/sectors_en.htm)
- European Commission, 'EU Taxonomy Compass', available at: [https://ec.europa.eu/sustainable-finance-taxonomy/tool/index\\_en.htm](https://ec.europa.eu/sustainable-finance-taxonomy/tool/index_en.htm)
- European Commission, 'EU taxonomy for sustainable activities', available at: [https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities\\_en#compass](https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en#compass)
- European Commission (2020), 'Taxonomy Report: Technical Annex'
- FAO & UNDP (2020), 'Assessing agroforestry practices and soil and water conservation for climate change adaptation in Kenya: A cost-benefit analysis', Rome, FAO.
- Fayolle, V. and Odianose, S. (2017), 'Green Climate Fund Proposal toolkit 2017: Toolkit to develop a project proposal for the GCF', London: Acclimatise and Climate and Development Knowledge Network.
- GIZ (2018), 'The GIZ Finance Guide: Navigating the world of finance', Eschborn.
- Global Network (2017), 'Financing National Adaptation Plan (NAP)'
- OECD (2021), 'The OECD DAC Blended Finance Guidance', OECD Publishing, Paris, <https://doi.org/10.1787/ded656b4-en>
- OECD (2018), 'Making Blended Finance Work for the Sustainable Development Goals', OECD Publishing, Paris.
- OECD, 'Blended Finance', available at: <https://www.oecd.org/development/financing-sustainable-development/blended-finance-principles/>
- Roberts, C., (Climate Funds Update) (2022-02-04), 'CFU - Funds operating in Latin America and the Caribbean', available at: [https://public.tableau.com/app/profile/carl.roberts/viz/CFU-LatinAmerica\\_16068533284360/FundsoperatinginLatinAmericaandtheCaribbean](https://public.tableau.com/app/profile/carl.roberts/viz/CFU-LatinAmerica_16068533284360/FundsoperatinginLatinAmericaandtheCaribbean)
- Roberts, C., (Climate Funds Update) (2022-02-04), 'CFU - Funds operating in the Middle East and North Africa', available at: [https://public.tableau.com/app/profile/carl.roberts/viz/CFU-MiddleEastandNorthAfrica\\_16068533809970/FundsoperatinginthemiddleEastandNorthAfrica](https://public.tableau.com/app/profile/carl.roberts/viz/CFU-MiddleEastandNorthAfrica_16068533809970/FundsoperatinginthemiddleEastandNorthAfrica)
- Roberts, C., (Climate Funds Update) (2022-02-04), 'CFU - Funds operating in Sub-Saharan Africa', available at: [https://public.tableau.com/app/profile/carl.roberts/viz/CFU-SubSaharanAfrica\\_16068535483570/FundsoperatinginSub-SaharanAfrica](https://public.tableau.com/app/profile/carl.roberts/viz/CFU-SubSaharanAfrica_16068535483570/FundsoperatinginSub-SaharanAfrica)
- Roberts, C., (Climate Funds Update) (2022-02-04), 'CFU - Recipient countries in Latin America and the Caribbean', available at: [https://public.tableau.com/app/profile/carl.roberts/viz/CFU-LatinAmerica\\_16068533284360/FundsoperatinginLatinAmericaandtheCaribbean](https://public.tableau.com/app/profile/carl.roberts/viz/CFU-LatinAmerica_16068533284360/FundsoperatinginLatinAmericaandtheCaribbean)
- Roberts, C., (Climate Funds Update) (2022-02-04), 'CFU - Recipient countries in the Middle East and North Africa', available at: [https://public.tableau.com/app/profile/carl.roberts/viz/CFU-MiddleEastandNorthAfrica\\_16068533809970/FundsoperatinginthemiddleEastandNorthAfrica](https://public.tableau.com/app/profile/carl.roberts/viz/CFU-MiddleEastandNorthAfrica_16068533809970/FundsoperatinginthemiddleEastandNorthAfrica)
- Roberts, C., (Climate Funds Update) (2022-02-04), 'CFU - Recipient countries in Sub-Saharan Africa', available at: [https://public.tableau.com/app/profile/carl.roberts/viz/CFU-SubSaharanAfrica\\_16068535483570/FundsoperatinginSub-SaharanAfrica](https://public.tableau.com/app/profile/carl.roberts/viz/CFU-SubSaharanAfrica_16068535483570/FundsoperatinginSub-SaharanAfrica)
- Roberts, C., (Climate Funds Update) (2022-02-04), 'CFU – Status of the Funds: Fund sizes', available at: [https://public.tableau.com/app/profile/carl.roberts/viz/CFU-StatusoftheFunds\\_16068500780590/Statusofthefunds](https://public.tableau.com/app/profile/carl.roberts/viz/CFU-StatusoftheFunds_16068500780590/Statusofthefunds)

SADC (Draft to be published 2022), Water, Energy, Food Nexus Guidelines.

The Renewable Energy & Energy Efficiency Partnership (REEEP) & the Food and Agriculture Organization of the United Nations (FAO) (2014), 'Making the Case: How Agrifood Firms are Building New Business Cases in the Water-Energy-Food Nexus', available at: [https://www.reeep.org/sites/default/files/REEEP\\_Making\\_The\\_Case.pdf](https://www.reeep.org/sites/default/files/REEEP_Making_The_Case.pdf)

UNECE (2021), 'Solutions and investments in the water-food-energy-ecosystems nexus: A synthesis of experiences in transboundary basins', Geneva.

UNFCCC (2012), 'Assessing the costs and benefits of adaptation options: An overview of approaches', The Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change, UNFCCC Secretariat, Bonn, Germany.

UNFCCC (2002), 'Annotated guidelines for the preparation of national adaptation programmes of action', Least Developed Countries Expert Group, available at:

[https://unfccc.int/resource/docs/publications/annguid\\_e.pdf](https://unfccc.int/resource/docs/publications/annguid_e.pdf)

Watson & Schalatek (2020), 'The Global Climate Finance Architecture', available at:

<https://climatefundupdate.org/wp-content/uploads/2021/03/CF2-ENG-2020-Digital.pdf>

World Bank Initiative on "Quantifying Tradeoffs of the Water-Energy Nexus": <https://www.water-energy-food.org//news/nexus-interview-the-world-bank-and-the-water-energy-linkages>

## 5.3 Module III – Case Studies

Case studies are a powerful tool to illustrate the benefits of solutions as well as challenges of for implementing the nexus approach in governance systems, policy processes and projects. Module 3 therefore presents specific Nexus experiences and examples from the five NRD target regions as well as additional examples from Europe and Germany. The case studies cover different regions, governance scales and types of solutions to ensure their suitability for different training needs.

### Overall learning objectives

- Learn about real case study examples illustrating the potential of the WEF Nexus as a guiding tool.
- Improve understanding and illustrate the tools and instruments introduced in modules 1 and 2.
- Learn about Nexus experiences and examples in the five NRD target regions as well as additional examples from Europe and Germany.

### Timeframe / Duration:

Individual case study presentations takes between 15 and 30 minutes

### Chapter overview:

Module 3 is divided into 6 separate PPTs for each case study. The case studies covered in the module include:

- 1) Mobile solar powered irrigation systems (SPIS), Bolivia
- 2) The Sahara Forest Project, Jordan
- 3) The Lagdo Dam in the valley of the Benue, Cameroon
- 4) WEF-Nexus coordination in the lower Kafue basin, Zambia
- 5) Policy framework for WEF coordination and the amendment of the fertilizer ordinance, Germany
- 6) Hydropower in the Reventazón River, Costa Rica

Each presentation includes an introductory slice (“overview of case studies”, see below) which give a brief overview of the case studies and should assist the trainer to select the appropriate case studies that he/she wishes to present. The content of this slide specifically gives an overview of the region, scale (local, regional, national, transboundary), involved WEF sectors and type of solution (technical, nature-based, governance, focus on challenges) for each case study.

Overview of case studies	Region	Scale (local, regional, national, transboundary)	Sectors (water, agriculture, energy)	Solutions (technical, nature-based, governance, focus on challenges)
Policy framework for WEF coordination, Germany	Europe			
Hydropower in the Reventazón River, Costa Rica	LAC			
Mobile solar powered irrigation systems (SPIS), Bolivia	LAC			
The Sahara Forest Project, Jordan	MENA Region			
The Lagdo Dam in the valley of the Benue, Cameroon	Niger Basin			
WEF-Nexus coordination in the lower Kafue basin, Zambia	SADC			

### Overview of case studies

It should not be the aim of a training to cover all of the 6 case studies summarized in this module. Instead, the trainer should choose the cases that best suit the participant's needs, backgrounds and objectives of the training. For instance, if participants are primarily decision-makers from a local level that are involved in designing and implementing technical projects, the Sahara Forest Project (Jordan) might be more relevant than the case of water distribution in the Reventazón River basin.

The slides do not contain any specific interactive question, placeholders for Q&A sections or similar interactive elements. This should be included by the trainer individually.

In addition, the trainer may want to consider including some questions for discussions, after the presentation of case studies to discuss lessons-learned and potentially ideas for how participants could apply what they have learned from the case studies. The trainer may consider the following questions:

- What are some of the major lessons-learned from the case studies?
- What are your important take-aways/ messages from these case studies?
- What lessons from the case studies could be transferred to your country?
- What challenges do you see that might arise?

### References

Autorite Bassin Du Niger (2021), 'Rapport de Mission sur le Barrage de Lagdo – Cameroun', Niamey, Niger.

Blumstein, S., Kramer, A., Carius, A. (2017). Coordination of Sectoral Interests in the Nexus Between Water, Energy and Agriculture. Mechanisms and Interests in Germany. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

Climate Change Knowledge Portal, 'Bolivia: Climatology', available at: <https://climateknowledgeportal.worldbank.org/country/bolivia/climate-data-historical?msclkid=323238b8bb2711ec941fc4905c4b777a>

Energypedia (2021-04-22), 'How to Use your Water in a Sustainable Way?' available at: [https://energypedia.info/wiki/File:GIZ\\_POSTER\\_1\\_English\\_Final.pdf](https://energypedia.info/wiki/File:GIZ_POSTER_1_English_Final.pdf)

- Energypedia (c), Toolbox on Solar Powered irrigation systems (SPIS): Safeguard Water: Module Aim and Orientation, available at: [https://energypedia.info/wiki/SPIS\\_Safeguard\\_Water](https://energypedia.info/wiki/SPIS_Safeguard_Water)
- Energypedia, (b), Toolbox on Solar Powered irrigation systems (SPIS): Get informed: Solar Powered Irrigation Systems', available at: [https://energypedia.info/wiki/SPIS\\_Toolbox\\_-\\_Solar\\_-\\_powered\\_Irrigation\\_Systems](https://energypedia.info/wiki/SPIS_Toolbox_-_Solar_-_powered_Irrigation_Systems)
- Energypedia, (a), Toolbox on Solar Powered irrigation systems (SPIS): Get informed: The Solar Alternative', available at: [https://energypedia.info/wiki/SPIS\\_Toolbox\\_-\\_The\\_Solar\\_Alternative](https://energypedia.info/wiki/SPIS_Toolbox_-_The_Solar_Alternative)
- European Commission (2021). Report from the Commission to the Council and the European Parliament on the implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources based on Member State reports for the period 2016–2019.
- GIZ (2018 a), 'Equipo Móvil de Bombeo Solar: Manual de Capacitación', Eschborn, available at: [https://uploads.water-energy-food.org/legacy/panel\\_solar\\_version\\_ue.pdf](https://uploads.water-energy-food.org/legacy/panel_solar_version_ue.pdf)
- GIZ (2018 b), 'Curso Internacional en Sistemas de Bombeo // Bolivia se Capacita en Sistemas de Bombeo para Irrigación y Otros Usos', available at: <https://www.water-energy-food.org//events/curso-internacional-sistemas-de-bombeo-bolivia-se-capacita-en-sistemas-de-bombeo-para-irrigacion-y-otros-usos>
- GIZ, 'Working together to develop the water, energy and food security sectors', available at: <https://www.giz.de/en/worldwide/43105.html>
- GIZ, 'Introducción al Nexo en América Latina y el Caribe. Módulo 9: Estudios de caso sobre interrelaciones del Nexo en la región', Curso virtual [PowerPoint Presentation].
- GIZ, 'Introducción al Nexo en América Latina y el Caribe. Módulo 9: Estudios de caso sobre interrelaciones del Nexo en la región:', Curso virtual [Script].
- Global Knowledge Platform (2020), 'Sustainable Water and Energy Solutions: Addressing Critical Services during the COVID-19 World Crisis and Beyond', Scoping Paper, available at: [https://sustainabledevelopment.un.org/content/documents/2687826632Global\\_Water\\_and\\_Energy\\_Solutions\\_Knowledge\\_Platform\\_Scoping\\_Paper\\_July2020.3.pdf](https://sustainabledevelopment.un.org/content/documents/2687826632Global_Water_and_Energy_Solutions_Knowledge_Platform_Scoping_Paper_July2020.3.pdf)
- Jouravlev, A., Rodriguez, A. & Peñailillo, R. (2017), 'National cases in LAC: Costa Rica & Brazil', [PowerPoint Presentation], Bonn.
- Ministry of National Development Planning (2017). 7th National Development Plan 2017-2021.
- Navarro, G., & Ferreira, W. (2004) 'Zonas de vegetación potencial de Bolivia: una base para el análisis de vacíos de conservación', Revista Boliviana de Ecología, 15, 1–40.
- Nexus Regional Dialogue (NRD) (2022), 'Water resource management of the Lagdo hydroelectric dam in Garoua, Cameroon'.
- Phiri, G. & Scheumann, W. (2018). Coordination – the Key to Governing the Water-Land-Food Nexus in Zambia? Discussion Paper 20/2018, German Development Institute. Available at: [https://www.die-gdi.de/uploads/media/DP\\_20.2018.pdf](https://www.die-gdi.de/uploads/media/DP_20.2018.pdf)
- Sahara Forest Project (2019). Enabling Restorative Growth. Available at: [https://www.saharaforestproject.com/wp-content/uploads/2019/12/Folder\\_liggende-A5\\_2019\\_v2\\_TE.pdf](https://www.saharaforestproject.com/wp-content/uploads/2019/12/Folder_liggende-A5_2019_v2_TE.pdf)
- Sahara Forest Project, Website available at: <https://www.saharaforestproject.com/>
- Schultz, Robert (GIZ) (2018), 'The SPIS Toolbox poster', available at: [https://energypedia.info/images/a/ae/PA\\_PosterA0.pdf](https://energypedia.info/images/a/ae/PA_PosterA0.pdf)
- Umweltbundesamt. Indicator: Nitrate in Groundwater. Available at: <https://www.umweltbundesamt.de/en/data/environmental-indicators/indicator-nitrate-in-groundwater>

Vargas, M.B. & Lee, T.L. (2017), 'El Nexo entre el agua, la energía y la alimentación en Costa Rica: El caso de la cuenca alta del río Reventazón', Serie Recursos Naturales e Infraestructura, Comisión Económica para América Latina y el Caribe (CEPAL), Santiago.

Vicente-Serrano, S.M. et al. (2016), 'Average monthly and annual climate maps for Bolivia', *Journal of Maps*, 12:2, 295-310.

Winters, C. (2012), 'Impact of climate change on the poor in Bolivia', *Global Majority E-Journal*, 3, 33–43.

WorldAtlas (2022), 'Maps of Bolivia', available at: <https://www.worldatlas.com/maps/bolivia>

World Bank's Viva Benoué project en Autorite Bassin Du Niger (2021), 'Rapport de Mission sur le Barrage de Lagdo – Cameroun', Niamey, Niger.

World Bank (2020), 'Valorization of Investments in the Valley of the Benue Project', Report.

Zambia Ministry of National Development Planning (2017). 7th National Development Plan 2017-2021

## 6 Annex

### Annex 1 - Preparatory training needs assessment questionnaire

The preparatory training needs assessment questionnaire serves to identify demand, knowledge gaps, and expectations of training participants with regard to the WEF Nexus. Thus, it allows the trainers to adapt workshops to specific needs of various NRD target groups by addressing the relevance of training topics to participants' work context, the participants' and institutional nexus experience, as well as additional learning needs. The preparatory training needs assessment questionnaire can be prepared in the form of an online survey and is based on the criteria of efficiency, effectiveness and relevance of the HCD measures.

#### Exemplary questionnaire

##### General information

Training course title:	Water-Energy-Food Nexus
Venue:	
Duration:	

##### Your background and context

Please select your gender:	Female	Male	Custom:	No answer
	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>

Please list the country or countries you work in:	No answer
	<input type="checkbox"/>

In which of the Nexus sectors lies your main professional expertise? (multiple answers possible)	No answer
<input type="checkbox"/> Water	<input type="checkbox"/>
<input type="checkbox"/> Energy	
<input type="checkbox"/> Agriculture	
<input type="checkbox"/> Environment	
<input type="checkbox"/> Other: _____	

What describes your area of work or your institution best?	No answer
--	-----------

<input type="checkbox"/> Governmental agency <input type="checkbox"/> Academic institution <input type="checkbox"/> Project planner <input type="checkbox"/> Civil society <input type="checkbox"/> Other: _____	<input type="checkbox"/>
--	--------------------------

What topics do you mostly work on?	No answer
	<input type="checkbox"/>

**Your experience**

Have you previously participated in a WEF Nexus training (organized by GIZ)?

- Yes       No

If you have participated in a WEF Nexus training, which key messages and outcomes do you remember?

In a few words, what do you understand by the term "Water-Food-Energy Nexus"?

	Not familiar at all		Very familiar	No answer			
How familiar are you with the WEF Nexus concept?	<input type="checkbox"/>						

**Your needs and expectations**

What are the most pressing challenges that you face in your region regarding water, energy and food (WEF) security?

What major challenges do you see for implementing the WEF nexus concept and specific nexus solutions in your region?

	Not at all	Fully applied	No answer
How much is the WEF Nexus approach already being applied in your institution/country?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please share any other thoughts or expectations for the training here in order for your trainer to adapt the training to your needs:

## Annex 2 - Evaluation questionnaire

The evaluation questionnaire for participants provides structured feedback on the training content, the working and learning methods, the trainers and the overall organisation of the workshops. It is used to measure the training results after every training, to gather feedback and measure the learning progress. Thus, it serves the trainers to improve future training interventions. The evaluation questionnaire can be prepared in the form of an online survey and based on the criteria of efficiency, effectiveness and relevance of the HCD measures.

### General information

Training course title:	Water-Energy-Food Nexus
Venue:	
Duration:	

### Your background and context

Please select your gender:	Female	Male	Custom:	No answer
	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>

Please list the country or countries you work in:	No answer
	<input type="checkbox"/>

In which of the Nexus sectors lies your main professional expertise? (multiple answers possible)	No answer
<input type="checkbox"/> Water <input type="checkbox"/> Energy <input type="checkbox"/> Agriculture <input type="checkbox"/> Environment <input type="checkbox"/> Other: _____	<input type="checkbox"/>

What describes your area of work or your institution best?	No answer
<input type="checkbox"/> Governmental agency <input type="checkbox"/> Academic institution <input type="checkbox"/> Project planner <input type="checkbox"/> Civil society <input type="checkbox"/> Other: _____	<input type="checkbox"/>

What topics do you mostly work on?	No answer
	<input type="checkbox"/>

**Content relevance and transfer possibilities**

	Totally disagree	Totally agree	No answer
The topics and content of the training course are important for my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please list the topics that the training course did <b>not</b> deal with but would have been important for your work:

	Totally disagree	Totally agree	No answer
The content of the training course successfully met my expectations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know how I can apply the course content in my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know how I can pass on what I learnt to my colleagues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can also make good use of what I have learnt in other contexts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The course has enabled me to continue working independently with the materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you already got concrete ideas of how to apply what you have learnt?    Yes     No

Please describe the initial steps you will take to implement your ideas:
What support do you require in this process?

--

**Working and learning methods**

	Totally disagree	Totally agree	No answer
The content and outcomes of the individual learning units were clear throughout.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
Participants were able to bring their own experience and examples into the training course.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
The material (e.g., presentation, case studies etc.) helped me to understand the content better.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
The working and learning methods were appropriate to the tasks and suitably varied.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
I could relate the case studies to the context of my own work and life.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>

The course was ...    too long     too short     just right

**Trainers**

	Totally disagree	Totally agree	No answer
<i>(type the name of the trainer here)</i>			
The trainer obviously had considerable expertise in her/his own field and was well prepared.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
The trainer only used specialist terms that had already been explained or were already familiar.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
The trainer could listen to the participants and answered their questions.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>

**Participants**

	Totally disagree	Totally agree	No answer

The atmosphere among the participants themselves was always cooperative.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
I was able to benefit from the experience of other participants.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
I will continue to exchange views on this subject with some of the other participants.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>

### Achievement of objectives

	Totally disagree	Totally agree	No answer
<b>Module 1.1: Background to the Water-Energy-Food Nexus</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
<b>Module 1.2: Water-Energy-Food-Interactions</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
<b>Module 1.3: Water-Energy-Food-Nexus Solutions</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
<b>Module 2.1: Assessing the Nexus – Assessment tools for decision support</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
<b>Module 2.2: Governing the Nexus</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
<b>Module 2.3: Cross-sectoral investment planning and financing</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
<b>Module 3: Case studies for cross-policy making and related project design and planning</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>

What competences or expertise have you acquired in addition to the training's explicit outcomes?

### Organisation

How happy are you with.... [adapt questions to given training format]	Very unhappy	Very pleased	No answer
• the overall organisation of the training course?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
• the seminar room?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>
• the catering?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/>

<ul style="list-style-type: none"> <li>the facilitation and applied softwares (e.g. zoom)?</li> </ul>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>the information you received in the run-up to the training (e.g., organisational details, technical / professional information on the subject ...)?</li> </ul>	<input type="checkbox"/>

What other information / documents would have you needed as well?

Since there are lots of aspects a survey like this cannot cover, we would ask you to add any comments or recommendations below that you might have for future training courses.

## Annex 3 - Exercise Handouts

### Module 1

#### Exercise 1.1: Your experiences with sectoral interlinkages

The objective of this exercise is to identify currently pressing challenges that are related to water, energy and food and their major interlinkages in your regional/ national context.

#### Step-by-step guide

##### Step 1: Group discussion on WEF nexus challenges

Build working groups consisting of 3-5 persons. If possible, each group should include representatives of both the national and local levels of government.

Task: Discuss the following points in your group and summarize your findings in the table on the next page:

- What are the major current challenges in the WEF nexus sectors in your region/country?
- Select 1-2 challenges and discuss how addressing these challenges would affect or depend on other sectors. What are the major interlinkages and trade-offs that you observe?

Timeframe: 20 minutes for the discussion and compiling the results in the table.

*Please see the next page for the table that you can use to collect your answers.*

##### Step 2: Presentation of group work results

Objective: Present your results to the plenary.

Task: Each group should appoint one group member who presents your findings in the plenary. Focus on the main interlinkages that you discussed. You can also mention possible questions that remained open in your group discussion.

Timeframe: 3-5 minutes for each group presentation.

##### Step 3: Plenary discussion

Objective: Comparison of the group results and further discussion in the plenum.

Task: Compare your results with the other groups in a plenary discussion. Where could you observe similarities or differences? What did surprise you? And where do you see entry points for implementing the WEF nexus?

Timeframe: 20 minutes for the plenary discussion.

**Table: Template for collecting results**

	<b>Water sector</b> 	<b>Energy sector</b> 	<b>Food sector</b> 	<b>Other sectors</b> 
<b>Challenges</b>				

<b>Key interlinkages and trade-offs with other sectors</b> 

### Exercise 1.3: Reflections on Nexus solutions

The objective of this exercise is to identify possible solutions to overcome the WEF Nexus challenges that you discussed in Exercise 1.1.

#### Step-by-step guide

##### Step 1: Analysis of possible solutions

Tasks: Looking back at the Nexus challenges you identified during the first exercise, what could be approaches for solving some of the nexus challenges? Choose 1 challenges that you identified and discuss possible solution for this. The following questions can help guide your discussion:

- How could potential technical, political or institutional solutions for the identified challenges look like?
- Where do you perceive potential synergies between the WEF sectors?

Use the table 1 below to collect your answers. Please note that you do not have to identify options for all solution categories. These are only suggestions that should help to structure your discussion.

In a second step, discuss possible next steps that would have to be taken to implement that solution. The following questions can help guide your:

- What activities/steps are required?
- Who would be responsible for implementation?
- What is the timeline for the activities?

Timeframe: 20-30 minutes for discussion and compiling the results in the table below.

*Please see the tables on page two and three of this handout. Please use this template to collect your answers.*

##### Step 2: Presentation of results and discussion

Objective: Present your results to the plenary.

Task: Each group should appoint one group member who presents your findings in the plenary. You can also mention possible questions that remained open in your group discussion.

Timeframe: 3 to 5 minutes for each group presentation.

##### Step 3: Plenary discussion

Objective: Comparison of the group results and further discussion in the plenum.

Task: Compare your results with the other groups in a plenary discussion. Where could you observe similarities or differences? What did you surprise?

Timeframe: Approx. 20 minutes for the plenary discussion.

**Table: Template for collecting results**

<b>Nexus challenge to be addressed:</b>		
<b>Type</b>	<b>Sectors involved</b>	<b>Description of Nexus Solutions</b> 
Technical solutions		
Institutional solutions		
Political solutions		
Synergies of technical/ institutional/ political solutions		

<b>Activity</b>	<b>Who is responsible</b>	<b>Timeline</b>

## Module 2

### Exercise 2.1: Selecting Nexus Indicators

The objective of this exercise is to reflect on appropriate indicators to measure and demonstrate the impacts of WEF nexus projects and to discuss the related challenges in finding the right indicators and relevant data sources.

#### Step-by-step guide

Build working groups consisting of 3-5 persons

#### Step 1: Selecting and describing a Nexus project

Task: Discuss the following points within your group:

- Choose an existing or planned nexus project that you know of or that you would like to see implemented in your region.
- Describe the project following the example given on page 2, including the following aspects:
  - What are the project's main components and objectives?
  - What are the main resource uses and relevant challenges in the project area? Which are affected groups of society?
  - What are the project's expected overall long-term objectives?

*Where you do not have any detailed information, just imagine some numbers for the purpose of this exercise.*

Timeframe: 15 minutes for selecting and describing the project.

#### Step 2: Select appropriate indicators

Task: Select appropriate indicators based on the NRD indicator framework (which can be found in a separate document). Please use the following guiding questions:

- What the main **categories and sub-categories** relevant for the project?
- Which **indicators** are suitable to measure or demonstrate the projects impacts?
- Discuss potential **challenges** in collecting data for these indicators?

*Please use the Table format on the next page to collect suitable indicators.*

Timeframe: 25 minutes for discussion and compiling the results.

#### Step 3: Presentation of group work and discussion within plenum

Task: Present your group work in the plenum and discuss further.

Timeframe: 30 minutes for group presentations and discussion in the plenary.

**Step 1: Defining a nexus project**

Example: Rehabilitation of lagoons for increased food security and water supply in Peru

**Title of the project:**

The use of payments for ecosystem services for the rehabilitation of ancestral lagoons in San Pedro de Casta, Santa Eulalia basin, Peru to improve WEF security Nexus in a rural community

**Background: Nexus resource use in the project area:**

The basin supplies the capital city of Lima with 50% of its drinking water, 1/3 of the electricity used in Lima is generated through hydropower in the Santa Eulalia basin, 98% of the basin is under cultivation. Since 2015 the water utility of Lima SEDAPAL collects funds from water users downstream through their water tariffs to compensate for ecosystem services provided by communities upstream.

**Project description and objectives:**

Rehabilitation of four ancestral lagoons in the San Pedro de Casta community upstream through the construction of levees will significantly increase infiltration and lead to higher and more continuous spring flow, including during the dry period. The additional runoff will be used to irrigate an orchard of 10 ha and power a micro generator to be installed together with solar panels to provide electricity to the community.

**Expected impacts:**

Improved food security through the irrigation of a fruit orchard and improved energy access in the rural community of San Pedro de Casta (2,800 inhabitants).

**Step 2: Identifying indicators**

<u>Pillar</u>	<u>Category</u>	<u>Sub-category</u>	<u>Indicators</u>	<u>Source of data / ways of data collection and challenges</u>

**NRD Indicator Framework**

Pillar	Category	Sub-Category	No.	Performance Metric	SDG Targets/ Indicators
 <p><b>1. Governance</b></p>	<b>1.1.1 Good Nexus Governance</b>		<b>1.1.1.1</b>	Extent to which platforms exist (multi-stakeholder meetings and roundtables, etc.) that enable intersectoral exchange (All stakeholders - Civil society, government, private sector, etc. - take part in a roundtable discussion/ dialogue platform during project planning; stakeholder mapping has taken place before hand)	16.7,17.15,17.16
			<b>1.1.1.2</b>	Percentage of relevant government sectors/agencies that participate in active mechanism(s) for inter-sectoral coordination on land use planning, policy, and management	16.7,17.15,17.16
			<b>1.1.1.3</b>	Number of analysis for supporting decision-making is carried out in case of conflicting objectives across sectors, users, or geographical disparities in accessing and using WEF resources (e.g. multi-criteria decision analysis, cost-benefit analysis).	16.7,17.15
			<b>1.1.1.4</b>	Status of multisectoral statement of the three sectors involved demonstrates "Nexus thinking" (All sectors are evenly involved during the project planning phase and submission and support Nexus thinking - multisectoral ownership by leading sector is given)	16.7
	<b>1.1.2 Policies</b>		<b>1.1.2.1</b>	Extent to which national/international policies support WEF Nexus action. (Existence of a dedicated policy or high-level political support on a national level to the WEF Nexus as a driver to economic growth, resource protection and security and vehicle to achieve the SDGs at national level)	17.16, 17.14
			<b>1.1.2.2</b>	Number of policies and economic instruments that are in place to manage scarcity, depletion and pollution of natural resources at catchment scale.	2.1, 2.3, 2.4, 6.3.2, 6.5.1, 6.5.2, 6.6, 15.1.2

Pillar	Category	Sub-Category	No.	Performance Metric	SDG Targets/ Indicators
			1.1.2.3	Number of policies that become WEF Nexus sensitive with support of the Action	15.6.1, 15.1.2
		1.1.3 Regulatory Instruments	1.1.3.1	Number of regulatory instruments that support the WEF Nexus action (pollution charges, subsidies renewables, pricing wastewater, there is a standardised/harmonised guidance at national or subnational level for setting and governing economic instruments such as tariffs, levies, abstraction/ pollution charges, taxes, feed-in tariffs. )	15.6, 15.1, 12.7, 12.2, 9.1
			1.1.3.2	Number of community agreements regulating natural resource use developed and implemented between different user groups	6B, 10.3
			1.1.3.3	Number of people that are informed by the Action about the regulatory instruments that support WEF Nexus action. (There is a standardised/harmonised guidance at national or subnational level for setting and governing economic instruments such as tariffs, levies, abstraction/ pollution charges, taxes, feed-in tariffs.)	-
		1.1.4 Investment	1.1.4.1	Demonstrable increased bankability of the project through the use of a Nexus perspective in planning leads to increased financing	-
 <b>2. Livelihoods</b>	2.1 Development for Livelihoods	2.1.1 Capacity building	2.1.1.1	X% of people who completed capacity building measures provided by the Action.	-
			2.1.1.2	X% of the target population whose awareness of the WEF Nexus approach has been increased	-
		2.1.2 Poverty	2.1.2.1	Locally relevant measures of economic development (e.g., livestock ownership, land ownership, access to credit/ financial services)	4.3.1, 6.A, 12.8, 13.3, 17.9
			2.1.2.2	% of (rural) population living on <\$1.90/day (or below national poverty line	13.3, 12.8
	2.2 Water for Livelihoods	2.2.1 Sanitation	2.2.1.1	Access to improved sanitation facilities for X% of the population in the project area.	1.1, 1.4, 1.5

Pillar	Category	Sub-Category	No.	Performance Metric	SDG Targets/ Indicators	
	2.2	2.2.2 Health	2.2.2.1	X% of population in the project area affected by (water-borne/ bacterial/ virus) diseases.	1.1, 1.2, 1.A	
		2.2.3 Industry and water efficiency	2.2.3.1	X% increase in the productivity of water due to the Action (financial value of industrial goods relative to water withdrawal; Water Footprint) m3/revenue (€)	6.2.1, 6.A, 6.A.1	
			2.2.3.2	X% decrease of volume (m3) of water the industry is using for production in the area of the Action (Diminishing water scarcity risks)	6.3, 3.3, 3.9, 6.A.1	
		2.2.4 Access/ Availability to water	2.2.4.1	X% of people have access to water purification and storage technologies thanks to the Action.	6.4.1, 6.A.1	
			2.2.4.2	Percentage of (rural) population with access to safe drinking water access	6.4.1, 6.A.1, 8.4.1	
			2.2.4.3	X% of people in the project area with less than (500, 1000, 1700 m3/person/year of water, depending on the context) water availability.	6.1.1, 6.A.1, 6.4	
			2.2.4.4	% of water expenditures as total of household expenditures in the project area per person/ household.	6.1.1, 1.4.1, 6.a.1	
			2.2.4.5	% of people with access to improved water source (piped water supply) in the project area.	1.4.1, 6.1.1	
		2.3 Energy for Livelihoods	2.3.1 Availability	2.3.1.1	% of people that have access to communication devices (such as phone, radio or TV e.g. for receiving information on weather, financing possibilities, new farming technologies etc.)	1.4.1, 5.B, 9.C.1
			2.3.2 Investment	2.3.2.1	% of increase in the investments for renewable energy production (% of investments in energy production that are dedicated to renewables)	7.2, 7A
	2.3.3 Health		2.3.3.1	% of reduction in respiratory diseases in project area due to a reduction in cooking with wood/dung	3.4.1, 3.9.1	
	2.3.4 Access to electricity		2.3.4.1	% of population with access to modern fuel for cooking and heating	7.a.1	
		2.3.4.2	X% of population in project area that has access to energy	7.1		

Pillar	Category	Sub-Category	No.	Performance Metric	SDG Targets/ Indicators
			<b>2.3.4.3</b>	% of households that have access to renewable energy at household level (in off-grid areas)	7.1.2, 7.2.1
	<b>2.4 Food for Livelihoods</b>	<b>2.4.1 Availability</b>	<b>2.4.1.1</b>	% of farmed food for self-consumption of households in the project area.	2.1, 2.3
			<b>2.4.1.2</b>	% of people that do not have access to sufficient food supply (X calories per capita per day according to the WHO)	2.1.2, 2.2
		<b>2.4.2 Access to food</b>	<b>2.4.2.1</b>	<i>Livestock diversity index (resilience)</i>	2.1, 2.3, 2.5
			<b>2.4.2.2</b>	<i>Crop diversity Index</i>	2.1, 2.3, 2.5
		<b>2.4.3 Income</b>	<b>2.4.3.1</b>	% of increase in income of the local population due to the Action (increased revenue from agricultural production, fisheries, forestry under a Nexus lens)	2.3
<b>3. Water</b> 	<b>3.1 Livelihoods for water</b>	<b>3.1.1 Labour</b>	<b>3.1.1.1</b>	Number of jobs created through the Action in the water sector	2.5.1
		<b>3.1.2 Allocations</b>	<b>3.1.2.1</b>	% of people that own water entitlements	2.3.2, 10.1.1
			<b>3.1.2.2</b>	% of people informed about the existence and distribution of water entitlements in the project area.	6.B, 8.3
		<b>3.1.3 Ecosystems</b>	<b>3.1.3.1</b>	Extent to which the protection of aquifers are fully acknowledged in project planning and implementation of the Action.	1.4, 6.1, 6.2, 6.B
			<b>3.1.3.2</b>	Total area natural ecosystem degraded (ha), disaggregated by land cover type	1.4, 6.1, 6.2, 6.B
			<b>3.1.3.3</b>	Total area restored (ha), disaggregated by restoration type	6.6, 15.1, 15.9
			<b>3.1.3.4</b>	Total area of natural ecosystem converted (ha), disaggregated by land cover type	15.3, 15.5
			<b>3.1.3.5</b>	Extent to which ecosystem protection and services are fully acknowledged in project planning and implementation of the Action.	15.2, 15.3, 15.B

Pillar	Category	Sub-Category	No.	Performance Metric	SDG Targets/ Indicators
	3.2 Energy for Water	3.2.1 Abstraction	3.2.1.1	% of energy from renewables used for water pumping (agriculture and drinking water, MWH/m3)	15.1, 15.3
		3.2.2 Desalination	3.2.2.1	% of energy that is needed for desalination	15.1, 15.9, 15.A
		3.2.3 Infrastructure	3.2.3.1	X% of total energy needed for water transportation (m3/MWH)	7.2, 7.B, 6.4
		3.2.4 Wastewater treatment	3.2.4.1	% of wastewater that is treated	6.4, 7.3
			3.2.4.2	% of wastewater that is reused (industry and mining)	6.4, 7.3
	3.3. Food for water	3.3.1 Contamination	3.3.1.1	X% of monitoring sites in agricultural areas which exceed limits for nitrates, phosphorous and pesticides (according to WHO or national standards) in surface water and ground water.	6.3
			3.3.1.2	Extent to which the decrease in siltation in surface water bodies is fostered by the project.	6.3
			3.3.1.3	Nutrients (nitrogen and phosphorus) (load/volume)	6.3, 15.1
			3.3.1.4	Extent to which fertilizer/antibiotics usage and pesticide usage/ manure management are sustainably used (avoidance of groundwater pollution)	15.1, 15.2
	 <b>4. Energy</b>	4.1 Livelihoods for Energy	4.1.1 Labour	4.1.1.1	Number of jobs created in the energy sector due to the transition to renewable energy
4.1.2 Access to credit			4.1.2.1	% of people/ households that acquired a credit in the project region after access to energy was given	2.4, 6.3, 15.1
4.1.3 Job creation			4.1.3.1	Number of businesses created (in the project area which are related to the WEF Nexus project advancements) due to the availability and access to energy	8.3, 8.5
				4.2.1.1	% of hydropower energy generation to total energy supply

Pillar	Category	Sub-Category	No.	Performance Metric	SDG Targets/ Indicators
	4.2 Water for Energy	4.2.1 Hydropower	4.2.1.2	% of renewable water resources stored in dam reservoirs (Resilience by water storage for energy production)	8.3
			4.2.1.3	Extent to which a multipurpose logic is integrated in dam construction logic (multipurpose dam)	7.2
			4.2.1.4	% of the project area that is under flood risk by the hydropower project	7.A
		4.2.2 Extraction of fossil fuels	4.2.2.1	% of freshwater resources that are needed for fossil fuel extraction (water footprint) in the project area	7.B, 13.1
		4.2.3 Cooling systems (Nuclear energy)	4.2.3.1	% of freshwater resources that are needed for cooling processes (water footprint) in the project area	6.6, 13.1
		4.2.4 Biofuels/Bioenergy	4.2.4.1	% of freshwater resources that are used for the production and processing of bioenergy resources	6.4, 6.6
		4.2.5 Processing (Industry)	4.2.5.1	% of freshwater resources that are needed for production processes (water footprint) in the project area	6.4, 6.6
	4.3 Food for Energy	4.3.1 Biofuels/Bioenergy	4.3.1.1	% of total energy supply that comes from bioenergy (yield, residues, wastes)	6.4, 6.6
			4.3.1.2	% of arable land that is converted into land used for bioenergy production (Net annual rates of conversion between land-use types caused directly by bioenergy production, including the following (amongst others): (a) arable land and permanent crops, permanent meadows and pastures, and managed forests)	6.4, 6.6
	5.1 Livelihoods for Food	5.1.1 Labour	5.1.1.1	Number of jobs created in the agricultural sector (in the project area due to activities of the Action)	7.2, 7.A

Pillar	Category	Sub-Category	No.	Performance Metric	SDG Targets/ Indicators
 <p><b>5. Food</b></p>		<b>5.1.2 Income</b>	<b>5.1.2.1</b>	Average producer's net income per ha for production activity/activities of interest	7.2, 7.A
			<b>5.1.2.2</b>	Extent to which yields (e.g. forest goods/ vegetables etc.) are available and sold on the local market	1.1, 2.3
		<b>5.1.3 Investment</b>	<b>5.1.3.1</b>	Extent to which investments in Nexus conform agricultural production means are favoured over conventional agricultural production means (e.g. hydroponics, etc.)	1.1, 2.3
	<b>5.2 Water for Food</b>	<b>5.2.1 Crops</b>	<b>5.2.1.1</b>	Annual surface water withdrawal as % of total actual water withdrawal for the cultivation of crops and agricultural produce in project area (dependency on surface water for agricultural usage)	1.1, 2.3
			<b>5.2.1.2</b>	Annual groundwater withdrawal as % of total actual water withdrawal for the cultivation of crops and agricultural produce in project area (dependency on groundwater for agricultural usage)	1.1, 2.3
		<b>5.2.2 Livestock</b>	<b>5.2.2.1</b>	% of water resources available for livestock at farm-level	6.4
		<b>5.2.3 Forestry</b>	<b>5.2.3.1</b>	% of freshwater used per m3 of timber?	6.4
			<b>5.2.3.2</b>	Number of hectares reforested in project area (% of total area) for groundwater recharge	2.3, 2.4
		<b>5.2.4 Fisheries</b>	<b>5.2.4.1</b>	Number / area of fish farming infrastructure installed	6.4, 6.6, 15.2
			<b>5.2.4.2</b>	Annual yield of fish	15.2
			<b>5.2.4.3</b>	% of freshwater resources needed for fisheries/ aquaponics	2.4, 2.A
		<b>5.2.5 Irrigation and Agriculture</b>	<b>5.2.5.1</b>	% of salinized soil (ha) of total arable land due to excessive irrigation of total arable land	2.3
			<b>5.2.5.2</b>	% of people/ households that use efficient irrigation techniques (such as drip irrigation) for agricultural purposes	2.4, 6.4
			<b>5.2.5.3</b>	% increase in irrigated cropwater productivity (m3/kg) (grain production per unit of water usage)	15.1, 15.5

Pillar	Category	Sub-Category	No.	Performance Metric	SDG Targets/ Indicators
			5.2.5.4	% of cultivated area (ha) compared to total cultivated area equipped for irrigation	2.3, 2.4
			5.2.5.5	X % of water usage for irrigation purposes that comes from treated wastewater	2.3, 2.4
			5.2.5.6	X % of water usage for irrigation purposes that comes from desalinated water sources	2.3, 2.4
		5.2.6 Sustainable water management	5.2.6.1	Water withdrawals (for production or processing) from surface or groundwater sources versus recharge (ratio)	6.4, 6.5
			5.2.6.2	% of agricultural land in project area classified for being prone to erosion (water or wind)	6.4, 6.5
			5.2.6.3	Average soil erosion rate (t/ha/y)	6.4
			5.2.6.4	% of water need that can be covered by precipitation (in volume, long-term average, mm/yr) in the project region (household and rainfed agriculture)	15.1, 15.3
			5.2.6.5	Net recharge rate (mm/yr) of groundwater as proxy of effects of land management on groundwater	15.3
			5.3 Energy for Food	5.3.1 Harvesting	5.3.1.1
	5.3.2 Processing	5.3.2.1		% of energy that is used for processing	6.4, 6.5, 6.6
	5.3.3 Transportation	5.3.3.1		% of energy produced needed for the transportation of a national food basket	7.3
	5.3.4 Irrigation	5.3.4.1		Energy for powered irrigation (without pumping)	7.3
	5.3.5 Expenditures	5.3.5.1		% of household income spent on fuel and electricity for agricultural activities and water pumping (increase of renewables translates into savings on the energy bill)	7.3

## **Alternative Exercise 2.1: Role play: The multi-purpose dam (based on FOMI, similar case to GERD)**

The objective of this role play is to develop indicators that integrate the point of view of other sectors.

### **Step-by-step guide**

#### **Step 1: Setting the scene**

Build 4 (large) working groups by sector (Water, Energy, Agriculture and Environment) and 1 group for the Office of the Presidency.

Task: Present the role-play and the case study. The main objective of the dam project must be clear.

Timeframe: 15 minutes

#### **Step 2: Group work**

Task: Each group writes the 2 main objectives of the project for their sector, with its respective indicators.

Timeframe: 30 minutes

#### **Step 3: Presenting indicators**

Task: Each group presents their indicators and collates them.

Timeframe: 15 minutes

#### **Step 4: Intersectoral discussion**

Task: Go to the next sector and negotiate/discuss your indicators.

Timeframe: 30 minutes

#### **Step 5: Representing interests**

Task: At the end of the rotation, the indicators are collated on 4 tables and presented/defended in plenary. Each group must defend its indicators of their sector for the implementation of the project.

Timeframe: 20 minutes

#### **Step 6: Final discussion**

Task: Plenary discussion to select indicators that are compatible with other sectors (The Office of the Presidency).

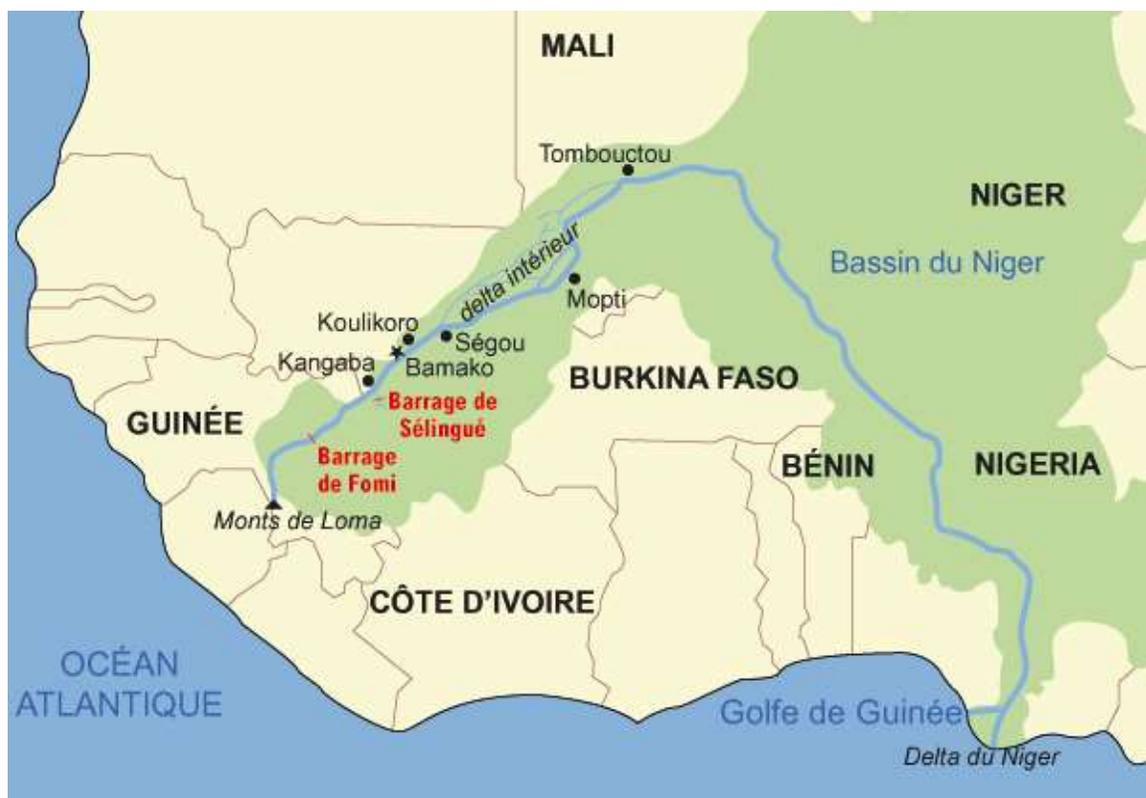
Timeframe: 10 minutes

**Expected result:**

Balanced indicators looking for methods to achieve a consensus as shared as possible, ideally with the tools presented during the antecedent sessions.

**The dam project**

Located in the Guinean highlands, the site for the Fomi dam on the Niandan river, 39 km from its confluence with the Niger river, was identified already in 1940, and a small dam was built. Between 1950 et 2013, several attempts were made to build a larger dam, and multiple financial, technical and environmental feasibility studies were carried out. The political priority given to the project under Guinean President Alpha Condé brought the topic to the centre of the national political agenda and therefore also to that of Mali and all other Basin countries, due to the magnitude of the project and the possible consequences downstream. Since 2014, and within the World Bank financed “Project for the development of Water Resources and Sustainable Ecosystem Management” the project had regained some of its momentum, notably with the call to re-evaluate the possible



**Figure 1: Map showing the Niger river basin (green), the river course and the strategic position of the Fomi dam at the basin's head.**

environmental and social impacts. The construction of the dam could then start relatively soon, depending on the availability of funding. The question remains: which project? With which objectives?

**A national project**

At the national level, one of the first interests of the Fomi dam project is to provide local households, markets and the mining industry with energy. It is then from the perspective of the great hydroelectric potential that the project was conceived in the first place. With an estimated cost of 250 million euro, the Fomi dam could have a power of about 100MW and provide 374 GWh, which represents around 3% of the total estimated national demand for 2030 (3).

The water reservoir could furthermore irrigate around 100 000 ha of agricultural land in Guinea, as well as provide fishing and fish-farming opportunities. The population to be displaced is estimated at over 45 000 people, and for this reason a new site seems to have gained preference among the project's managers and contractors : 15 km upstream, the populations to be displaced would only amount to around 5 000.

The project's possible impacts are not at all limited to the Guinean territory. The dam's position, at the head of the third largest basin in Africa and the largest in West Africa, means that several aspects have to be considered, especially for countries downstream. On an economic and social level, changes in the river's regime and discharge would demand that agricultural and economical activities adapt significantly. On an environmental level, certain ecosystems and humid zones would be affected, notably the Niger River Inner Delta, in Mali. On a political and regional integration level, the project raises questions vis-à-vis downstream countries, around, for example, who decides on water retention or release. In short, the typical questions of a large project of this kind in a transboundary context.

### **A project of common interest for the region**

Within the framework of basin-scale planning performed under the coordination of the Niger River Basin Authority (NBA), the project for the Fomi dam has been identified by the nine member states, along with two other dam projects (the Taoussa dam in Mali and the Kandadji dam in Niger) for its potential to regulate the Niger's discharge beyond its significant seasonal variations. In a region that has a rainy season typically concentrated in a period of only three months, the need to retain water to maximise its productivity and effectiveness both at the economic, social and environmental levels is significant.

Regulating the discharge of Niger's main course would potentially allow to expand irrigation and agricultural production potential, thus improving security and independence of food production and provision in the region. The NBA's Sustainable Development Action Plan estimates for example that the Fomi dam could provide for the development of improved irrigation as far as Niger (the country), where 10 000 ha of irrigated farmland could be developed. Discharge control throughout the year would also allow for improved navigation and regional commerce on the river to be further developed.

It is of course evident that the artificial control of the river's natural regime would entail a change in the relation between the river and the ecosystems it sustains throughout its seasonal fluctuations. The impact would also reach all human activities depending directly on these ecosystem's natural resources, for example fishing and rice farming, which depend on the seasonal flooding of certain areas of the basin. Furthermore, reorienting the dam's main goal from hydropower to river discharge regulation would have a significant influence on financial calculations of the economic viability of the project.

## Exercise 2.2: Nexus Policy Analysis

The objective of this exercise is to reflect on the policies and instruments that regulate resource use in the WEF sectors within participants' own national contexts and develop ideas to address these (by refining existing policies and instruments and/or developing additional ones).

### Step-by-step guide

#### Step 1: Analysis of existing policies

Build working groups consisting of 3-5 persons (preferably of the same national background). If possible, each group should include representatives of both the national and local levels of government.

Task: Discuss the following points within your group:

- As a group, choose one of the pressing challenges that relates to resource uses in the WEF sectors within your national contexts.
- Based on the resource efficiency challenge you have chosen, please answer the following questions:
  - Characterize the main challenges of the resource use (status quo and challenges).
  - Which **policies and instruments** that regulate resource use in the selected sector do already exist? Please consider both the national and local level. Please think of the following instruments:
    - Regulatory instruments
    - Financial instruments
    - Promotional instruments
  - What are **shortcomings of the instruments** presently in place?

Timeframe: 15 minutes for the discussion and compiling the results.

#### Step 2: Development of additional policy instruments

Task: Develop (additional) policies that would help addressing the identified challenge. Please use the following guiding questions:

- What (additional) **policies and framework conditions** would help advancing resource efficiency in the identified sector? Please again think of regulatory, financial and promotional instruments (but you don't necessarily have to cover all).
- What **barriers** may arise in the implementation of these instruments?
- How could these **barriers be addressed** to improve implementation and avoid negative impacts?

Timeframe: 15 minutes for the discussion and compiling the results.

*Please see the next page for an example of the policy analysis and development (step 1 and 2). Please follow the same structure when answering the abovementioned questions.*

### Step 3: Presentation of group work and discussion within plenum

Task: Present your group work in the plenum and discuss further.

Timeframe: 30 minutes for group presentations and discussion in the plenary. The following questions could be elaborated:

- Were the existing policies adequately analysed?
- Do you think the suggested new instruments would successfully address the identified challenges?
- Did the team reflect upon the relevant barriers?
- What are your main lessons learned from this exercise?

### Example: Energy efficiency

#### Step 1: Policy analysis

##### Status quo

- Steadily increasing energy demand due to population growth and increasing summer temperatures (growing electricity demand for air conditioning)
- Energy demand by water sector is increasing because of growing amounts of water that need to be pumped (from sources further away) and wastewater that needs to be treated
- National government shows commitment towards increasing energy efficiency, renewable energy and reduction of GHG emissions
- Regional and local governments also show commitment towards reducing GHG emissions

##### Challenges

- Lack of incentives to save energy which is cheap for industry, agriculture and household consumers (due to broad subsidies)
- Lack of building regulations on energy efficiency
- Limited resources in industry and agriculture to invest in energy-saving technologies
- Lack of manufacturers' readiness to produce energy-efficient products

##### Existing policies and framework conditions

- National energy legislation regulates how an investor can obtain a license from the national energy agency to produce, distribute and sell electricity
- Different regulations that subsidize fossil fuel energy (to reduce import dependence, enhance energy and food security; provide affordable energy to low-income households), including:
  - 1) A cap price for kerosene (used for cooking and lighting) which is below international prices
  - 2) Preferential tax treatments for energy-intensive industries and agriculture (tax credits)

**Step 2: Adjustment of existing and development of additional policy instruments**

<p><b>Regulatory mechanisms</b></p>	<ul style="list-style-type: none"> <li>• Develop National Action Plan for energy efficiency, setting national goals and scope for regulation</li> <li>• Introduction of energy efficiency requirements in existing building regulation</li> <li>• Introduce energy-efficiency label for consumer products</li> </ul>
<p><b>Financial mechanisms</b></p>	<ul style="list-style-type: none"> <li>• Stepwise phasing out subsidies which support energy production from fossil fuels</li> <li>• Set fixed feed-in tariffs for renewable energy sources to incentivise renewable energy production</li> <li>• Grant programme for energy efficient building projects</li> </ul>
<p><b>Possible barriers</b></p>	<ul style="list-style-type: none"> <li>• Lack of resources to enforce regulatory and economic mechanisms</li> <li>• Opposition by end-users that are not willing to pay more for electricity</li> <li>• Growing prices for water supply and treatment</li> <li>• Increasing consumer prices and unrest amongst population</li> </ul>
<p><b>Addressing barriers</b></p>	<ul style="list-style-type: none"> <li>• Tax credits to low-income households</li> <li>• Increase societal support for energy efficiency through stakeholder participation (e.g. in development of National Action Plan for energy efficiency) and public campaigns</li> <li>• Accompany mechanisms with demand-side management programs to lower overall energy demand (educational initiatives, trainings, guidelines for air conditioning settings in public and private buildings etc.)</li> </ul>

### Exercise 2.3: Pitch your WEF Nexus project!

The objective of this exercise is to pitch your own WEF Nexus project in order to attract funding. Thus, the participants get an insight into funding opportunities for the implementation of WEF Nexus projects. It also deepens their understanding regarding selection criteria of international donors and modalities for accessing funding sources. Ultimately, the exercise contributes to increasing the participant's knowledge about requirements of financing for Nexus projects and to increasing chances of receiving it.

#### Step-by-step guide

##### Step 1: Choose your funding source and develop your Nexus project

Build working groups consisting of 3-5 persons (preferably of the same national background). If possible, each group should include representatives of all three sectors.

##### Background:

You are representing a WEF Nexus project implementing entity and currently searching for funding opportunities. Therefore, you are attending the international conference on "Leveraging WEF Nexus funding". After the first day you have already gained a useful overview over possible funding sources. For the next day, you are planning to reach out to one of the funding representatives in order to pitch your Nexus project towards her/him. Can you convince her/him of your project and obtain the aspired funding source?

Task: Discuss the following points within your group and fill in the slots in table 2:

- Discuss the three different funding sources listed in table 1 and choose which one you will address
  - o Please keep in mind the different criteria indicated for each funding source depending on the character of the project that you are developing
- Please pitch your project to the funding source you have chosen by answering the following questions and fill in the slots in table 2:
  - o What kind of implementing entity are you representing (e.g. governmental agency, NGO, private sector, etc.)?
  - o Which funding source have you chosen?
  - o What is your project title?
  - o In which region does your project take place?
  - o At what level should your project take place (e.g. transboundary, national, regional, local)?
  - o Which WEF sectors are involved?
  - o Which activities does your project encompass? Please check table 3 for a set of possible activities.

Timeframe: 45 minutes for discussion and compiling the results within the group.

*Please find the tables 1 to 3 in the annex on the pages 3 and 4.*

##### Step 2: Pitch your Nexus project

Task: Pitch your developed Nexus project towards the representative of the selected funding source (for the purpose of this exercise, the other participants of the group will act as “the representative”).

Timeframe: each group will have max. 5-7 minutes for presenting their project pitch.

### **Step 3: Discussion**

Task: After each presentation, the other participants of the group will have a short round of discussion. The following questions could be elaborated:

- Did the pitched project fulfill the conditions of the chosen funding source?
- What do you think of the activities selected? Do you think this is a feasible project in practice?
- Please share your main lessons learned from this exercise.

Timeframe: 5-7 minutes discussion after each group presentation.

**Annex**

Table 1: Find your funding source

Parameters	Funding sources		
	Multilateral climate fund	Developing bank	Regional/ national funds
Eligibility	For countries (national government agencies)	For governmental and non-governmental institutions, NGOs and the private sector	For governmental and non-governmental institutions, NGOs and companies
Project conditions	Supports investments in climate change mitigation and adaptation strategies, conservation, and sustainable resource management	Supports investments in (green/grey) infrastructure, the reduction of GHG emissions, and renewable energies	Supports investments in institutionalizing the WEF Nexus, cross-sectoral communication, and WEF Nexus related gender equality
Funding conditions	Depending on project criteria (e.g. loans, grants, etc.)	Grants, concessional loans, and guarantees	Grants, loans, and equity

Table 2: Pitch your project

Parameters	Description
Implementing entity	
Funding source	
Project title	
Regional focus	
Scale	
Sectors involved	
Activities	

Table 3: Select your activities

Activity		Description
Environmental	Climate change mitigation and adaptation	The project contributes to climate change mitigation and adaptation using green or grey energy (e.g. Nature-based Solutions, water treatment plants, dams, etc.).
	Sustainable resource management	The project leads to a sustainable management/ use of resources (e.g. diverse cropping patterns, implementation of agrivoltaics, drip irrigation, restoration of water canals, etc.).
	Soil conservation and/or restoration	The project leads to soil conservation and/or restoration (e.g. constructed wetlands, slope stabilization with plants, etc.).
	Enhanced nutrition, crop and plant diversity, or land productivity	The project allows for enhancing nutrition, crop and plant diversity, or land productivity (e.g. promotion of traditional crops, mixed cropping patterns, etc.).
	Reduction of GHG emissions	The project contributes to a reduction of GHG emissions (e.g. due to the use of alternative energy sources like solar or wind power, conservation/ restoration of wetlands, etc.).
	Use of renewable energies	The project leads to an increased share of renewable energy in the overall energy mix (e.g. use of solar and wind energy, bioenergy, hydropower, etc.).
	Water conservation	The project improves water conservation (e.g. through reduced use of water, restoration of lacking water canals, use of sustainable irrigation systems, groundwater recharge, etc.).
Institutional	Intersectoral communication	The project enhances the intersectoral communication (e.g. due to intensified inter-ministerial and expert dialogues, etc.).
	Merging departments	The project intends to merge departments of the water, energy and/or food sector and thus facilitates cross-sectoral cooperation.
Other	Advanced gender equality	The project leads to the advancement of gender equality, especially regarding participation and access to opportunities and benefits (e.g. establishment of women led water user organisation, etc.).
	Wellbeing of indigenous and local communities	The project improves the wellbeing of indigenous peoples and local communities (e.g. connecting remote areas to the grid, strengthening political participation, etc.).

## Annex 4 – Exemplary Agendas

Table 1: Exemplary agenda for a half-day course

Start time	End time	Duration (min)	Topic	Type
9 a.m.	10:10 a.m.	70	1.1 Background to the Water-Energy-Food (WEF) Nexus	Presentation
10:10 a.m.	10:25 a.m.	15	Break	
10:25 a.m.	11:25 a.m.	60	1.1. Interactive exercise: Experiences with sectoral interlinkages	Exercise
11:25 a.m.	11:40 a.m.	15	Break	
11:40 a.m.	12:30 p.m.	50	1.2 Water-Energy-Food Interactions	Presentation
12:30 p.m.	12:44 p.m.	15	Energizer	
12:45 p.m.	1:15 p.m.	30	1.3 Water-Energy-Food Nexus Solutions	Presentation

**Table 2: Exemplary agenda for a one-day course**

Start time	End time	Duration (min)	Topic	Type
9 a.m.	10:10 a.m.	70	1.1 Background to the Water-Energy-Food (WEF) Nexus	Presentation
10:10 a.m.	10:25 a.m.	15	Break	
10:25 a.m.	11:25 a.m.	60	1.1. Interactive exercise: Experiences with sectoral interlinkages	Exercise
11:25 a.m.	11:55 a.m.	30	1.3 Water-Energy-Food Solutions	Presentation
11:55 a.m.	1:55 p.m.	90	Break	
1:55 p.m.	2:55 p.m.	60	1.3 Interactive exercise: Reflections on Nexus solutions	Exercise
2:55 p.m.	3:25 p.m.	30	Case Study	Presentation
3:25 p.m.	3:40 p.m.	15	Break	
3:40 p.m.	4:55 p.m.	75	2.1 Assessing the Nexus	Presentation
4:55 p.m.	5:10 p.m.	15	Break	Presentation
5:10 p.m.	5:25 p.m.	15	Energizer	
5:25 p.m.	6:35 p.m.	70	2.2 Governing the Nexus	Presentation

**Table 3: Exemplary agenda for a three-day course**

Start time	End time	Duration (min)	Topic	Type
<b>Day 1</b>				
9 a.m.	10:10 a.m.	70	1.1 Background to the Water-Energy-Food (WEF) Nexus	Presentation
10:10 a.m.	10:30 a.m.	20	1.1. Interactive exercise: Experiences with sectoral interlinkages (Part I)	Exercise
10:30 a.m.	10:45 a.m.	15	Break	
10:45 a.m.	11:25 a.m.	40	1.1. Interactive exercise: Experiences with sectoral interlinkages (Part II)	Exercise
11:25 a.m.	12:15 p.m.	50	1.2 Water-Energy-Food Interactions	Presentation
12:15 p.m.	1:45 p.m.	90	Break	
1:45 p.m.	2:15 p.m.	30	1.3 Water-Energy-Food Nexus Solutions	Presentation
2:15 p.m.	3:15 p.m.	60	1.3 Interactive exercise: Reflections on Nexus solutions	Exercise
3:15 p.m.	3:30 p.m.	15	Break	

3:30 p.m.	4:45 p.m.	15	Energizer
4:45 p.m.	5:55 p.m.	70	2.1 Assessing the Nexus
Exercise			

Start time	End time	Duration (min)	Topic	Type
<b>Day 2</b>				
9 a.m.	9:15 a.m.	15	Energizer	
9:15 a.m.	10:25 a.m.	70	2.2 Governing the Nexus	Presentation
10:25 a.m.	10:45 a.m.	20	2.2 Interactive exercise: Nexus Policy Analysis (Part I)	Exercise
10:45 a.m.	11 a.m.	15	Break	
11 a.m.	11:50 a.m.	50	2.2 Interactive exercise: Nexus Policy Analysis (Part II)	Exercise
11:50 a.m.	12:35 p.m.	45	2.3 Cross-sectoral investment planning and financing	Presentation
12:35 p.m.	2:05 p.m.	90	Break	
2:05 p.m.	3:25 p.m.	80	2.3 Interactive exercise: Pitching your Nexus project	Exercise
3:25 p.m.	3:40 p.m.	15	Break	

3:40 p.m.	3:55 p.m.	15	Energizer	
3:55 p.m.	4:15 p.m.	20	3 Case Study	Presentation
4:15 p.m.	4:35 p.m.	20	3 Case Study Discussion	Discussion
4:35 p.m.	4:50 p.m.	15	Energizer/Break	
4:50 p.m.	5:10 p.m.	20	3 Case Study	Presentation
5:10 p.m.	5:30 p.m.	20	3 Case Study Discussion	Discussion
Start time	End time	Duration (min)	Topic	Type
<b>Day 3</b>				
	Whole day		Nexus Game	Exercise



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