Co-production of roadmaps on the development-climate change nexus in Morocco

Methods, results and lessons learned from ADAPTtoDEVELOP



Deliverable 3 of Policy Supporting Research (PSR):

"How to better integrate the environmental dimension in the Belgian development cooperation in Morocco - Nexus development/climate"

February 2022

Disclaimer

Les opinions exprimées dans ce document représentent les points de vue des auteurs et ne reflètent pas nécessairement ceux de l'Etat belge. L'Etat belge décline toute responsabilité en ce qui concerne les informations fournies et les avis exprimés dans le présent document.

The opinions expressed in this document represent the views of the authors and do not necessarily reflect those of the Belgian State. The Belgian State declines all responsibility for the information provided and the opinions expressed in this document.

Preface

The adoption of the Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change converged to consolidate an international consensus on the need for integrated development, environment and climate change agendas. Such an approach aims at addressing the embedded interlinkages and manage potential trade-offs that could result in unsustainable development trajectories and/or maladaptation. This is a governance mission that demands bringing together governments, development and climate change actors, but also citizens and civil society as a whole in meaningful collaborative actions. It is by itself a difficult endeavour that becomes more challenging by the complex nature of climate change and the multiple – sometimes contested – definitions given to sustainable development.

Morocco clearly illustrates the imperative of conciliating development programmes and actions with the environment and climate change ones. According to the country's 'Projet de Stratégie Nationale de Développement Durable 2030', Morocco faces interconnected socio-environmental challenges, social vulnerabilities and rising inequalities in a context of acute climatic variability and change. The Belgian Development Cooperation has embarked on the challenge to work together with Moroccan actors towards addressing intertwining socio-environmental issues and giving a renewed relevance to its agendas in the country.

In this context, ADAPTtoDEVELOP, acronym for this PSR project, applied a participatory research methodology to co-produce with various actors in Morocco an inclusive, climate-resilient and sustainable vision for the country, as well as a roadmap defining Morocco's priorities in terms of the development-climate change nexus. The vision and the roadmap, together with the rest of the ADAPTtoDEVELOP analysis, will help the DGD to define strategic and operational steps to dive into Morocco's development challenges considering in a substantial way environmental and climate change aspects.

ADAPTtoDEVELOP developed a 'foresight' participatory methodology, which was applied in three workshops in Morocco in September 2021. The workshops '*Réflexion pour une feuille de route socio-environnementale pour la coopération belge au Maroc*' brought together Moroccan institutions, civil society, academics, donors and development cooperation actors. This document presents the rationale and methodological steps undertaken from the preparation to the conduction phase of the ADAPTtoDEVELOP workshops; it reports on the results of each workshop and provides conclusions with lessons learned. We hope that this document will provide inspiration and guidance for the DGD in order to collaboratively engage with the development-climate change nexus in Morocco and beyond.

Colophon

Authors

Dr. Eirini Skrimizea, KU Leuven

Dr. Elena Briones Alonso, HIVA, KU Leuven

Dr. Alice Alonso, UCLouvain

Prof. Dr. Constanza Parra, KU Leuven

Contributors

Prof. Dr. Anton Van Rompaey, KU Leuven

Transcriptions and support in data analysis

Samyra Benbachir

Illustrations

Julia Mota Albuquerque

Acknowledgement

We thank Alain Blanchemanche, Astrid de Laminne de Bex and Prof. Ali Essahlaoui for their help in the organisation of the workshops and for hosting us in Morocco. Special thanks to all our workshops' participants and our interviewees for sharing their expertise, their time, kindness and enthusiasm.

Table of Contents

Preface 3
1. Introduction 5
2. The methodological steps of ADAPTtoDEVELOP participatory research 6
2.1 Analytical framework, empirical domains and exploratory interviews 6
2.2 Identifying and recruiting the participatory workshops' participants 7
2.3 Designing and conducting the ADAPTtoDEVELOP workshops in Morocco 8
2.3.1 Part I: The visioning exercise 'Challenges and vision' 8
2.3.2 Part II: The regular backcasting exercise 'Roadmap' 11
2.4 After the workshops: analysis, constant engagement and restitution 12
3. ADAPTtoDEVELOP workshops' reports 13
3.1 ADAPTtoDEVELOP Workshop I 13
3.2 ADAPTtoDEVELOP Workshop II 16
3.3 ADAPTtoDEVELOP Workshop III 19
3.4 Pointers on the role of the development cooperation in the development-climate change nexus in Morocco 22
4. Conclusions and lessons learned 23
References 26
Annex 1 Example of interview guide and interviewees' profiles 27
Annex 2 Example of workshops' agenda 29

Documents of the ADAPTtoDEVELOP series

Deliverable 1. Sustainable adaptation principles for the development-climate change nexus

Deliverable 2. The ADAPTtoDEVELOP 'pilot domains' in Morocco

Deliverable 3. Co-production of roadmaps on the development-climate change nexus in Morocco: Methods, results and lessons learned from ADAPTtoDEVELOP (methodology and workshops' results)

Deliverable 4. Development-climate change nexus in Morocco: ADAPTtoDEVELOP results (policy brief)

Deliverable 5. Synthesis Report ADAPTtoDEVELOP

Deliverable 6. ADAPTtoDEVELOP conclusions and recommendations (Outreach document)

All documents and project updates can be found in our ADAPTtoDEVELOP website here.

1. Introduction

Addressing the development-climate change nexus, i.e., engaging with development efforts that are integrated and mutually supportive with climate change related strategies and actions (Funder et al., 2020), is a complex, contested problem and governance mission. As such, and as almost all current sustainability challenges, addressing the development-climate change nexus requires changing how decisions are made and strategies are being developed, and how they draw on different ways of knowing and acting – including ideas, norms, practices, and discourse (Wyborn et al., 2019). In this respect, many alternative forms of research and policy processes that aim at being more participatory and thus more democratic, inclusive and integrating different forms of knowledge have emerged and are often institutionalised and required by funding agencies worldwide (Pereira et al., 2020; Wyborn et al., 2019). Engaging an inclusive set of partners has been found indeed to be key to developing legitimate, actionable, and salient research and policy agendas (Cook et al., 2021). It is in this context that the PSR ADAPTtoDEVELOP adopted a participatory research methodology at its core in order to support the DGD in diving into Morocco's development-climate change nexus and update its development agendas accordingly. Here, we understand the participatory process as the active involvement of governments, development and climate change actors, but also citizens and civil society in sharing ideas and knowledge on a given 'problem'.

As a form of participatory process, in ADAPTtoDEVELOP we focused on transdisciplinary co-production of knowledge and ideas. Co-production goes beyond just sharing ideas or extracting information from a particular group and involves actively linking different types of knowledge with values to develop visions and goals for the future (Wyborn et al., 2019). In ADAPTtoDEVELOP, the co-production approach was designed to guide a participatory process of medium-term visioning (2021-2035) of an inclusive, climate-resilient and sustainable Morocco, and of a strategy building (roadmap) with strategic and operational steps to address the development-climate change nexus in the country. The co-production of future visions and the roadmaps occurred primarily through participatory workshops that took place in Morocco in September 2021 and brought together Moroccan institutions, civil society, academics, donors and development cooperation actors. The participatory workshops centred around facilitated small-group and plenary foresight activities, i.e., activities that employ methods for dealing with the future (Van den Ende et al., 2021). Co-production approaches in general and foresight participatory activities in particular are today under intense scientific and policy discussions. This is not only due to their potential in fostering collaborative engagement with (sustainable) development challenges in the context of climate change but also due to the challenges embedded in designing and applying them in a truly inclusive, meaningful and efficient manner. In fact, these processes are often time consuming, messy, and involve making careful choices on the questions and concepts guiding the overall approach, intense reflection on the methods to be used and their tailoring according to the issues at stake, experienced facilitation and capacity to build concrete outcomes. In ADAPTtoDEVELOP, the methods and activities were thoughtfully selected and designed by our research team based on scientific literature and our previous experience as well as according to the topic and aim of the PSR project, the time and funding available, and the participants' profiles. We have now encapsulated the main steps and results of our approach in this report.

Based on the above, this report can be read as a 'background document', providing methodological details and background information from throughout the project's lifecycle, but has also value in itself. This document is developed for the DGD to offer a comprehensive practical methodological package that can be applied in different country contexts (or again in Morocco at a bigger scale) for the co-production of roadmaps on the development-climate change nexus. At the same time, this document presents the first results of the pilot application of this methodological package in

Morocco. Based on our experience, the co-production approach presented here has been successful in exploring the development-climate change nexus in Morocco in a time-efficient manner, as well as in bringing together local and international actors and building networks for related action. We walk the reader through three phases of our participatory methodology; the 'preparatory phase' of the ADAPTtoDEVELOP participatory workshops, the 'action phase' referring to the workshops' exercises and evolution, and the workshops' follow-up and analysis of the results. Section 2 is a step-by-step guide on the methodological steps undertaken in ADAPTtoDEVELOP. Section 3 presents the main results of the participatory workshops while section 4 concludes with a synthesis of the results and lessons learned.

2. The methodological steps of ADAPTtoDEVELOP participatory research

In these sections, we go through the methodological steps of the ADAPTtoDEVELOP participatory research, which we organize on a timeline revolving around the ADAPTtoDEVELOP workshops – central elements and the 'action phase' of this work (Figure 1). Sections 2.1-2.2 refer to the preparatory phase of the ADAPTtoDEVELOP participatory workshops, section 2.3 provides a step-by-step guide on the workshops' exercises and evolution, and section 2.5 concerns the workshops' follow-up and the analysis of the results.

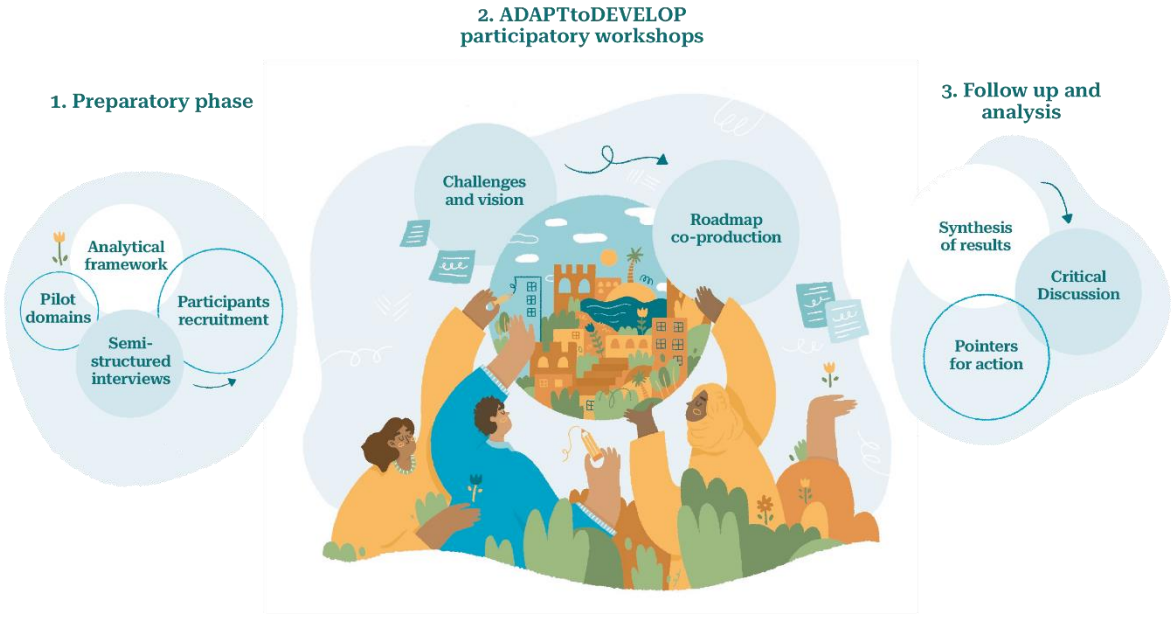


FIGURE 1 THE METHODOLOGY FOLLOWED IN ADAPTTODEVELOP

2.1 Analytical framework, empirical domains and exploratory interviews

A fundamental methodological step was the development of the analytical framework to conceptualise the development-climate change nexus (Deliverable 1). The analytical framework provides the theoretical underpinnings of the whole participatory exercise. It guides the development of the next steps in terms of themes addressed, builds a basis for developing a common understanding and language among the workshops' participants, and helps in the synthesis and discussion of the findings. For the needs of ADAPTtoDEVELOP, we developed our analytical framework through literature review of scientific and grey literature that has previously engaged with the development-climate change nexus trying to bring on board both development-centred and climate-centred perspectives for an integrative sustainability

approach. To be time and cost-efficient, this step demands a certain familiarity with the literature and with conducting purposeful literature review. Future application of the ADAPTtoDEVELOP methodology can be based on the analytical framework we already developed.

In parallel to the development of the analytical framework, desktop research and interaction with colleagues with relevant expertise permitted the selection of clusters of socio-economic sectors in Morocco of high relevance to the development-climate change nexus. We called the selected clusters of socio-economic sectors 'pilot domains'. The selected pilot domains are agriculture-forests-biodiversity, urbanization-migration-tourism and water-energy-food (Deliverable 2). The analysis of the pilot domains was important for getting an understanding of the local context and grounding the analytical framework to the Moroccan reality as a preparation for the workshops. This methodological choice was also guided by the analytical framework that highlighted the need for a cross-sectoral approach to the climate change adaptation challenge. The data collection for the analysis of the pilot domains was done mainly through literature review and exploratory in-depth semi-structured interviews (three interviews per pilot domain). We opted for semi-structured interviews instead of solely desktop research for a quicker collection of key insights but also for trust building and for engaging with relevant actors as preparation for the workshops. In selecting the interviewees, we used purposive sampling, seeking information-rich participants representing a diversity of interests such as researchers, international cooperation actors, policymakers, and civil society actors (Patton, 2002). The interview guide was developed following the main themes of the analytical framework and was tailored according to the pilot domain and to the specific interviewer. An example of interview guide and the profiles of the interviewees can be found in Annex 1.

2.2 Identifying and recruiting the participatory workshops' participants

The next step of the preparation phase is about identifying and recruiting the participants of the workshops for the co-production of the roadmaps. Following the same strategy with the interviews, we used purposive sampling, seeking highly relevant and information-rich participants representing a diversity of interests. To identify and recruit a diversity of participants, we mobilized our pre-existing local networks in Morocco but we also conducted online research and shared our invitation with additional potential participants. Considering the theme and goal of the workshops, we aimed at attracting people that, although relevant to the development-climate change in Morocco, they are diverse in expertise and roles in both Moroccan and international institutions. The input of heterogeneous groups of participants is valuable at exploratory projects, when the problem definition and the question of how the roadmap would look like are flexible and open for debate (Pereira et al., 2018; Van den Ende et al., 2021). With two workshop facilitators from our research team and aiming at an in-depth engagement with the topic and enough time and space for all participants to express themselves, we aimed for 10-15 participants per workshop and three workshops. Although it proved difficult to be achieved, we also aimed for gender-balance. Although our goal was to recruit between 10-15 participants per workshop, our II and III workshops were challenged by people's hesitation due to the COVID situation with 9 and 7 participants respectively. Workshop I attracted 22 participants due to significant help from our local partner from the University of Meknès, who mobilized his extensive network. Personal, clear and open communication with the different actors to build trust, address their questions and doubts, and catch their interest was key to ensure that the workshops attract enough participants.

2.3 Designing and conducting the ADAPTtoDEVELOP workshops in Morocco

We conducted three workshops in Morocco. Workshop I took place in Meknès at the 'salle des séminaires de la Faculté des Sciences de Meknès' on 16 September 2021. Workshops II and III took place at the Belgian Embassy in Rabat on 21 and 22 September 2021. The workshops lasted one full morning each (4 hours with a coffee break of 20 minutes). They were facilitated in French by two members of our research team and they did not demand any previous preparation by the participants' side. In order to design our workshops, we got inspiration from different sources on participatory methods but we were mainly guided by the report of Van den Ende et al., (2021) which provides a good overview and tips on foresight participatory exercises in the context of climate change.

After a presentation of the project, its analytical framework, the aims of the workshops and a 'tour de table', the workshops were organized around interactive activities into two main parts: Part I 'challenges and vision', and Part II (co-production of the) 'roadmap'. Part I resulted in a shared socio-environmental vision in the form of clustered ideas of what an inclusive, climate-resilient, and socially-sustainable Morocco 'should' look like in 2035. Part II resulted in the co-production of roadmaps in the form of clustered, time-wise ordered ideas on actions to be taken in order to attain parts of or the broader vision as this was previously defined (Figure 2). Annex 2 presents the agenda of the workshops. Each interactive activity demanded the participants to split into groups to work collaboratively and then report to a plenary session. We encouraged participants to change groups in every activity, so as to ensure that all participants interacted between them as much as possible. At the same time, we discreetly intervened when we observed that certain participants dominated the discussions in order to give space also to others to express. We used flipcharts, pens and post-its, a map of Morocco, dot stickers (for voting) and a meeting room with desks permitting interactions and co-working. Sections 3.3.1 ad 3.3.2 describe the two parts of the workshops and their interactive exercises.

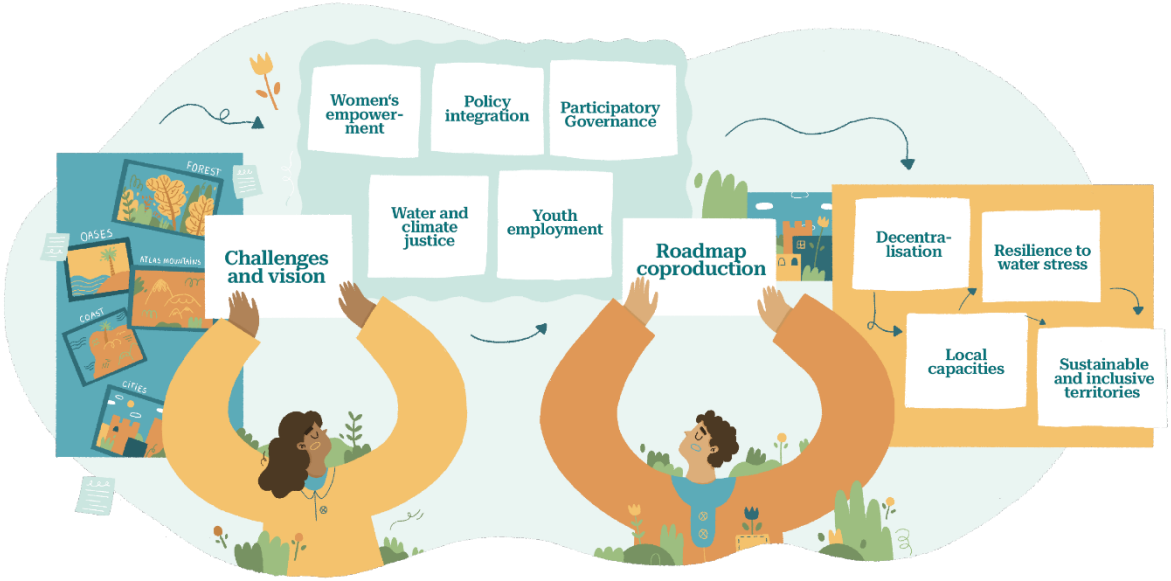


FIGURE 2 THE PROCESS FOLLOWED IN THE ADAPTTODEVELOP WORKSHOPS FROM THE IDENTIFICATION OF THE CHALLENGES AND THE VISION TO ROADMAP COPRODUCTION

2.3.1 Part I: The visioning exercise 'Challenges and vision'

The Part I of the workshop consists of a two-step visioning exercise. There are different ways to conduct a visioning exercise with different degrees of guidance from the facilitators to the participants. The visioning exercise in ADAPTtoDEVELOP followed a structured format with guidance questions and

creative tools. We started by explaining to the participants the overall aim of the exercise: to elaborate a vision for Morocco according to an alternative pathway, more positive, and by integrating together the different knowledges and perspectives of the participants. To make the aim more specific, we brought forward the overarching question that needed to be addressed:

'How would it ideally look like an inclusive, climate resilient and sustainable future for Morocco?'

Once we made sure that everyone understood the aim and the guiding question, we explained the two steps of this exercise: i) Assessment and mapping of current and future socio-environmental challenges, ii) co-creation of a desired future and a socio-environmental vision for Morocco.

Step I: Assessment and mapping of current and future socio-environmental challenges

Material: A map of Morocco, pens and post-its, Time: 30 mins

During this step participants were divided into groups of 2-4 people, depending on the total number of people, and worked with three post-its and a map of Morocco. We asked participants to discuss between them and identify three actual and/or future socio-environmental challenges (one challenge per post-it) and to place them on their map. This ice-breaker exercise let participants to interact and reflect on the challenges in order to then build on these for envisioning the ideal future state. The map of Morocco was used to invite participants to reflect in terms of territorial (cross-sectoral, systemic) challenges and the socio-environmental nexus. Participants were explicitly asked to leave their expertise aside and try to think in such 'territorial terms'. To guide and help the discussions within the groups and to structure the output of the exercise, we shared questions such as:

- What are some of the current socio-environmental challenges in Morocco?
- Where do we see these challenges to be exacerbated due to climate and environmental change trends?



FIGURE 3 ASSESSING AND MAPPING SOCIO-ENVIRONMENTAL CHALLENGES

- Who lives and works in the different areas, what do we know about their desires and needs? What are the most vulnerable groups?
- What is already present and what needs improvement? What is missing and what we would like to achieve here?

Each group had then the opportunity to present their ideas and place their post-it on a larger, common map (Figure 3). The result was a shared map of Morocco with hotspots of current and future socio-environmental challenges cutting across sectors and territories.

Step II: Co-creation of a socio-environmental vision

Material: pre-filled cards with keywords, dot stickers, pens and post-its, Time: 30 mins

For the needs of this step, we had prepared and hanged on the wall cards with keywords and key phrases that were used by major policy documents such as Morocco's National Strategy for Sustainable Development 2030 and Morocco's 2030 National Climate Plan to describe goals and visions for Morocco. Examples of these are 'participatory governance', 'climate justice', 'sustainable cities', 'sustainable tourism'. Through two rounds of participatory voting and enhancing of the keywords with ideas coming for the participants we tried to co-define a shared inclusive, climate-resilient and sustainable vision for Morocco.

We, in our role of facilitators, started this step of the first exercise with the following introduction to the participants: '*In 2017, Morocco's National Strategy of Sustainable Development 2030 came into force. In 2019, Morocco issued its 2030 National Climate Plan. In April 2021, Morocco's new development model with Ambitions for 2035 was published. Having such a 10-15 years' time-horizon in your mind and based on your knowledge and personal and professional perspectives but also on the challenges we just mapped, we now invite you to travel ahead in time and imagine that we have arrived in 2035 and Morocco is more inclusive, climate-resilient and sustainable than now. What does this mean?*'

After this introduction, we presented to the participants the cards on the wall and we invited them to take part in a first round of participatory voting: each participant had three dot stickers to vote for three cards on the wall (Figure 4). The participants were asked to vote those cards that they considered to contain the most crucial elements for an inclusive, climate-resilient and sustainable Morocco – taking into account the challenges discussed in the previous step of the exercise.





FIGURE 4 PARTICIPATORY VOTING FOR A SOCIO-ENVIRONMENTAL VISION FOR MOROCCO

Once this was done, participants were divided into groups of 2-4 people and had three post-it notes in total where they could add three keywords and/or key phrases to enlarge the considerations of the vision as this had been illustrated on the wall with our cards. To guide and help the discussions within the groups and to structure the output of the exercise, we shared questions such as:

- In 15 years from now… what has improved?
- How territories such as the ones we discussed before have transformed?
- How has the environment and current socio-economic trends changed?
- How have the daily lives of people changed? What are the social and policy innovations that were introduced?
- What has happened in terms of infrastructure? What has happened in terms of protecting the most vulnerable to climate and environmental change?

After the brief interactions within the groups, each group presented their ideas and placed their post-its among our pre-defined cards on the wall. While the participants moved on to talk, they clustered ideas that were common between them. The plenary session then discussed on any missing or also conflicting ideas. Once the presentations and discussion were over, each participant was given again three dot stickers to vote for three (additional or the same with previously) cards on the wall. The session concluded here and the results were discussed in the beginning of Part II. This structured set of ideas and concepts that resulted from this exercise is then the goal to be addressed through the co-production of the roadmap. The voting gave a sense of shared priorities among the participants who were then asked to reflect on the roadmaps with these priorities in mind.

2.3.2 Part II: The regular backcasting exercise 'Roadmap'

Material: Flipcharts, pens and post-its, Time: 1h30min

The Part II of the workshop concerns the co-production of the roadmap for achieving the co-defined vision of the previous exercise. In simple words, the next step is to identify pathways to move towards the vision. There are different methods that can be used in this exercise (e.g., regular backcasting, incremental backcasting and seeds-based pathways - Van den Ende et al., 2021). In ADAPTtoDEVELOP, we used regular backcasting. Regular backcasting pathways start with a desirable future state (developed during the visioning exercise of 3.3.1) and look backward from the vision to describe a sequence of short, medium and long-term strategies, actions or measures that people deem essential to reach the vision. In ADAPTtoDEVELOP, we differentiated also between adaptations and transformations in line with our analytical framework. The overarching question that we asked participants to address at this stage was:

'How can we realise this vision of an inclusive, climate-resilient and sustainable Morocco?'

Participants were divided into two or more groups, depending on the total number of people, and worked with flipcharts and post-its. The flipcharts were previously prepared to have a horizontal axis denoting the timeline with short-term, medium-term and long-term time spans. We asked participants to discuss between them on the vision of the previous exercise, which was always presented on the wall in order to have it easily accessible, and to brainstorm in order to identify the necessary actions for the different time spans to navigate towards the vision. The participants had then to place the actions identified on post-its and then on the timeline, trying also to connect the different actions in order to construct thematic narratives (e.g., social, environmental, technological actions…). Considering that this can be a challenging exercise, we tried to keep it flexible: we gave to the participants the freedom to decide i) on whether they would like to work with the broader vision or with certain elements/sectors of

the vision (e.g., water security) and, ii) on how to conceptualise their roadmap (e.g., to build thematic narratives or to add just a variety of actions).

After the interactions within the groups, each group presented their ideas and placed their roadmaps on the wall. In the end, all the participants discussed around the roadmaps in a plenary session (Figure 5). The participants were finally asked to reflect and discuss on the role and challenges of the international development cooperation within the presented roadmaps.



FIGURE 5 PREPARING AND PRESENTING THE CO-PRODUCED ROADMAPS

2.4 After the workshops: analysis, constant engagement and restitution

Parts of the workshops were audio-recorded and photos were taken after consent was obtained by the participants. During the workshops, one of the facilitators was keeping notes of the highlights. These sources of information (recordings, photos, notes) have been used for the reporting of the workshops' results (section 4) and for the synthesis and analysis (section 5). As the workshops were conducted in French but our working language is English, a native speaker transcribed and translated the recordings keeping some direct quotations that were deemed important. For reporting the results of the workshops, we used the transcriptions together with the resulted materials (maps, post-its, photos) and we organized the reports following the workshops' evolution and exercises (section 4). The results from these workshops will be synthesised and analysed together with the results from the desktop research and the semi-structured interviews using our analytical framework. This analysis feeds the conclusions and recommendations of ADAPTtoDEVELOP (Deliverable 4).

In parallel to the analysis of the findings and the writing of the reports, we remained in touch with the workshops' participants and other actors that were consulted during the action phase of the project. We shared the participants' lists, photos and other material from the workshops together with updates. This constant engagement with the participants of the participatory research is key for building trust and for valuing in practice the contribution of the participants. Considering the exploratory, short-term nature

of the specific research project and the novelty of the project's topic for the Moroccan context, this constant engagement is also important for building the foundations for further collaborations and networks of actors – as requested by the workshops' participants themselves. Restitution workshops first with the DGD and then with the actors consulted during the process (interviewees, workshop's participants) are important for communicating the findings, receiving feedback and further valorising the collaborative efforts, while increasing their impact and further building the recommendations (Deliverable 6).

3. ADAPTtoDEVELOP workshops' reports

In the following sections, we present the results per workshop organized according to the workshops' exercises. Section 3.4 summarizes in a Box, pointers on the role of the development cooperation in the development-climate change nexus in Morocco as these were collected during open discussions with the participants during the plenary sessions of the roadmaps' exercises.

3.1 ADAPTtoDEVELOP Workshop I

Date and time: *16 September 2021, 14h30-18h30*

Location: *Université Moulay Ismail, Meknes*

Number of participants: *22*

Profiles of participants: Academics *(Université Moulay Ismail, Université Sidi Mohamed ben Abdellah de Fès),* ***Public officials*** *(Agence urbaine Meknès, Agence du bassin hydraulique de Sebou, Ministère de l'Agriculture, Office Nationale de l'eau potable et de l'Electricité, Régie Autonome de Distribution Eau et Electricité de Meknès, Direction Régionale des Eaux et Forêts et de la Lutte Contre la Désertification du Moyen-Atlas, Direction Régionale de l'Agriculture Fès-Meknès, Direction Provinciale De l' Agriculture D' Elhajeb, Societe Imaouen D'etudes, Conseils Et Developpement),* ***Civil society*** *(Association Al Khir El Hajeb).*

Assessment and mapping of current and future socio-environmental challenges

The participants focused mainly on ecological aspects of current and future socio-environmental challenges. They highlighted the issues of water stress and degradation, drought, erosion and biodiversity loss, and identified the oases, the Sahara and the Atlas Mountains but also their places of direct professional interest – Meknès and Fès – as territories-hotspots demanding actions that consider also climate change. The participants seemed to agree on the challenges related to appropriate water resources management, the use of irrigation techniques to build resilience to climate change, monitoring the progress of erosion and sensitive natural areas, and safeguarding the oases. Additional challenges mentioned have to do with the management of energy resources, urbanisation and loss of agricultural land. The insufficient girls' schooling in Sahara, the mountains and, in general, rural areas was also mentioned and connected to increased vulnerability to environmental change. The positioning of the post-its, which were mainly accumulated in the North around Meknès and Fès, revealed a certain geographical and knowledge bias that raised discussions among the participants on the need for more spatially inclusive approach in research and policy.

Co-creation of a socio-environmental vision

Table 1 presents some of the most valued and shared among the participants elements structuring the vision of an inclusive, climate resilient and sustainable Morocco, according to the results of the participatory voting[1]. The exercise confirmed the prominence of achieving resilience to climate change and water stress, and highlighted the 'sustainable cities' as a goal for the future considering the current, quick and challenging urbanisation processes. Environmental and climate justice together with gender considerations are normative elements cutting across sectors. Intersectoral governance, adequate financing, environmental and urban planning, and new infrastructure and technologies constitute governance, managerial and technological elements that are important for the vision itself but also useful to achieve it. Training, education and awareness raising were also stressed as important elements that permit an inclusive socio-economic development as well as the building of community resilience.

TABLE 1 ELEMENTS OF VISION WORKSHOP I

Suggested by the research team	Suggested by the participants
Resilience to climate change	Financing
Training of people	Synergies of actions / Intersectoral governance
Resilience to water stress	Environmental risk management and urban planning
Sustainable cities	Education and awareness raising
Environmental and climate justice	Conservation of natural resources
New infrastructure and technologies	Gender

Co-production of the roadmap for achieving the vision

Both of the groups of this participatory workshop decided to focus on addressing the issue of water security. Group A gave particular focus on the importance of technology and infrastructure in increasing water supply and managing the demand, while acknowledged the issues of governance and policy integration and the participatory management of the resource as transversal strategies to be put in place (Figure 6). The group highlighted to role of universities and R&D in providing the new technologies and methods for the increase of the water supply. The construction of dams and the proper planning of the urban basis amidst a rapid urbanization process in Morocco are also foreseen to be part of the same effort. The group stressed the need for non-conventional water sources and for addressing the water-agriculture nexus through crop rotation management and (other) water saving practices with the goal to accompany water supply with water demand strategies.

Group B, recognizing the significance of the water issue and governance as a transversal element as Group A did, constructed their roadmap around the vision of an 'Integrated management of natural resources for a sustainable Morocco' (Figure 7). The group highlighted as immediate actions the need for water infrastructure, training and awareness-raising and capitalising on the 'rich experience among actors in Morocco on water management techniques and lessons-learned from previous projects'. At the same time, investing on the synergy between stakeholders mobilizes a participatory and integrated governance system. Moving towards the mid-term, the previous actions will have contributed in developing strategies, policies and actions for adaptation to climate change and for wastewater reuse

[1] For this Table and for Tables 2 and 3 we aimed at including the five mostly voted vision elements that were suggested by us (the researchers) and the five mostly voted vision elements that were suggested by the participants. In some cases, the elements are more than five. This is because some keywords were clustered in the same post-it but represented different themes and we decided to split them, and/or because some elements (post-its) received the same number of votes and had all to be included in the top-5.

and desalination. These together with innovative scientific research will contribute to Morocco's sustainable development, which is encapsulated in materialising territorial solidarity (between upstream and downstream areas), long-term environmental and social justice, and poverty reduction.

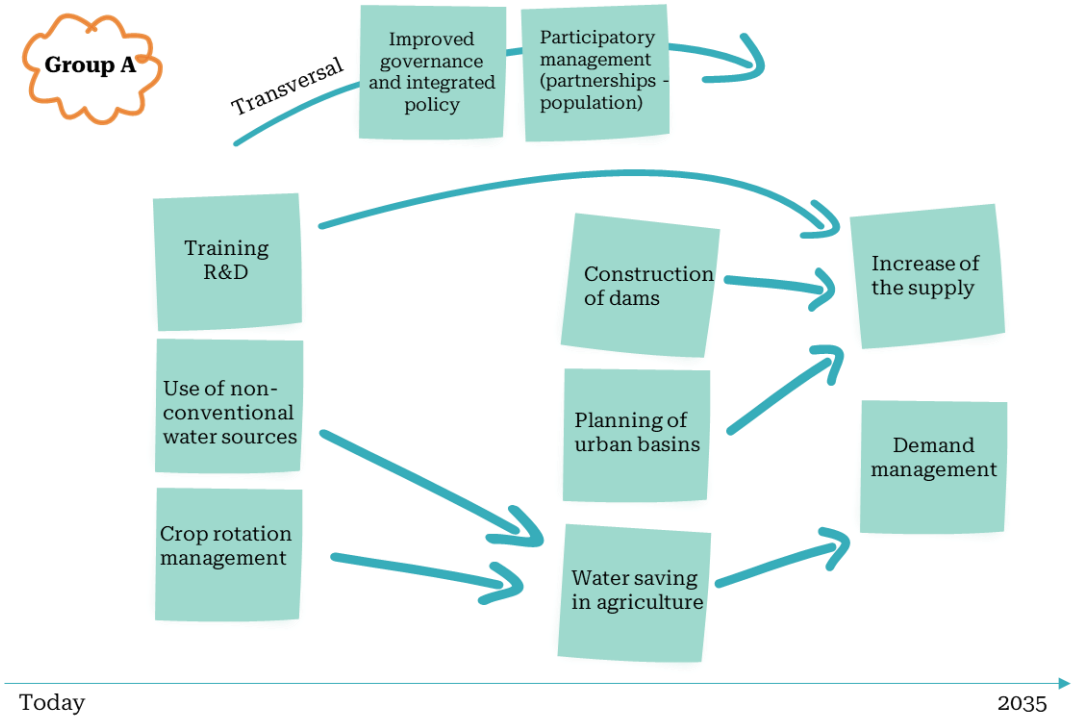


FIGURE 6 WATER SECURITY ROADMAP, WORKSHOP I, GROUP A

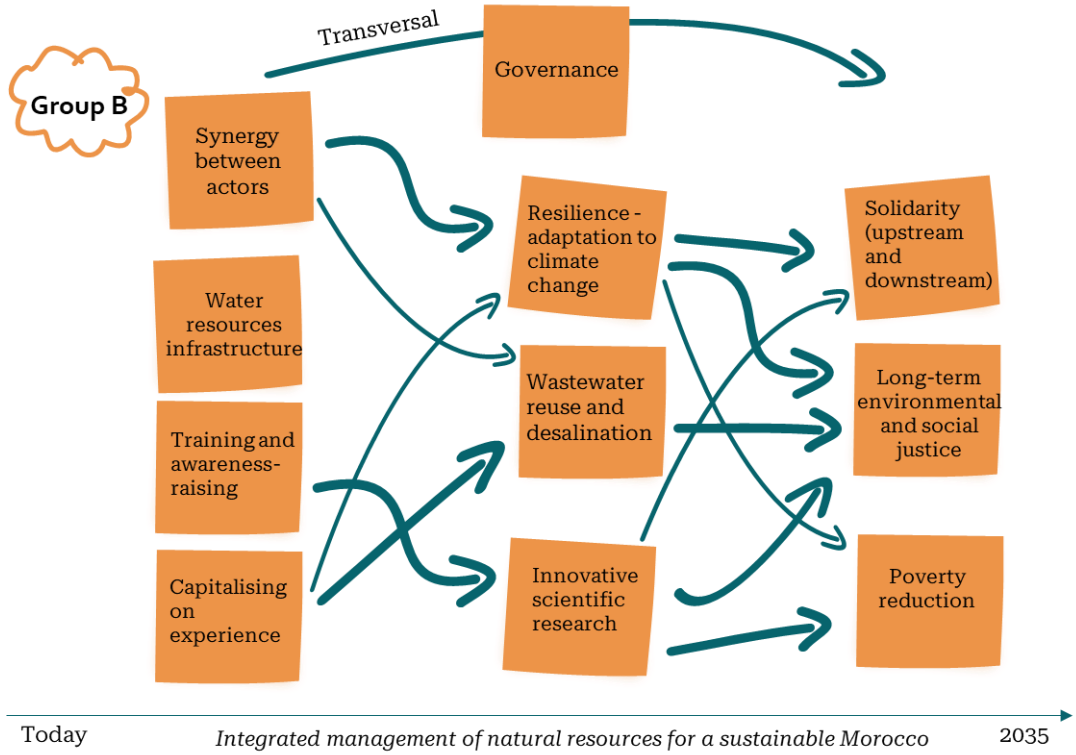


FIGURE 7 WATER SECURITY ROADMAP, WORKSHOP I, GROUP B

3.2 ADAPTtoDEVELOP Workshop II

Date and time: *21 September 2021, 09h00-13h00*

Location: *Belgian Embassy, Rabat*

Number of participants: *9*

Profiles of participants: International organisations *(Délégation de l'Union européenne au Royaume du Maroc, UNESCO, FAOMA, ONU Maroc),* ***Academics*** *(Ecole Nationale de Sciences Appliqués Tanger),* ***National representations in Morocco*** *(Ambassade de Suisse au Maroc),* ***Development agencies*** *(Enabel - Belgium),* ***civil society*** *(Alliance Marocaine pour le Climat et le Développement Durable).*

The participants highlighted governance and policy challenges for the development-climate change nexus at a broad (national) level and identified hotspots of socio-environmental challenges distinguishing between the more urbanised areas north-west of the Atlas Mountains and the rural areas in the south and east of the Atlas Mountains. More specifically, the participants referred to the need for integrating the notion of sustainability across sectors and territorial scales, and establishing synergies between development ambitions and environmental sustainability by better aligning sectoral strategies (e.g., water-agriculture). The question stressed here was 'How can we translate sustainability into the policies of the territories and decision-making? What do we mean by sustainable territory?'. The need for education on sustainability at all levels (from the youth to decision-makers), and empowering the youth as agents of change for promoting sustainable development in Morocco was also mentioned as a current challenge for Morocco as a whole. Focusing on urban areas, the participants stressed the urbanisation of the coast and the need for updated urban planning and adaptation strategies incorporating climate and socio-economic change considerations, and counting for related pollution (air, water, waste). In terms of rural areas, their ecosystems are degrading (water, soil, biodiversity) calling for a more appropriate management of natural resources. The participants referred especially to the need to address the challenge of sustainable water management within a context of energy transition (i.e., effort to position Morocco as an energy exporting country), water-intensive but profitable internationally agriculture, and climate change. Finally, the mountain areas and the oases, were identified as territories needing special attention when discussing global and regional change together with development and territorial disparities issues. Biodiversity degradation, deforestation and erosion are all historical threats to the sustainability of natural resources in the Moroccan mountain environments that, together with climate change, contribute to poverty and migration, and have to be addressed in a way that also supports community resilience and territorial (rural) development. The resilience of oasis agro-ecosystems, on the other hand, is of absolute importance against the advance of desertification but is threatened by water scarcity, unauthorized urbanization, lack of viable economic activities and seemingly by a trend towards more sedentary (rather than transhumant) pastoralism.

Co-creation of a socio-environmental vision

Table 2 presents some of the most valued and shared among the participants elements structuring the vision of an inclusive, climate resilient and sustainable Morocco, according to the results of the participatory voting. The exercise brought to the foreground the 'inclusive' and social sustainability elements of the vision: poverty, social and territorial disparities' reduction, as well as a development that represents vulnerable but typically marginalised social groups (youth and women) were the most voted

'ingredients' for a desired future. In this sense, reflecting on and engaging with cultural and territorially-specific representations of development and well-being when trying to establish visions was also highlighted. Resilience to water stress (including equitable access to water, e.g., between large landowners and small farmers) and sustainable cities accommodating the demographic acceleration were identified as the more specific, sectoral goals, while participatory governance, policy integration and effective decentralisation constitute the main governance and policy elements of the vision. The participants voted also for a Research and Development (R&D) that support climate change adaptation but also environmentally friendly industries. Training and awareness raising of citizens were also stressed as important elements and were mentioned as prerequisites for access to decision-making and participatory governance.

TABLE 2 ELEMENTS OF VISION WORKSHOP II

Suggested by the research team	Suggested by the participants
Poverty reduction	Decreased social and territorial disparities
Training of people	Inclusive and youth- and women-serving development / representation of collective well-being
Resilience to water stress	Effective decentralisation /de-concentration
Sustainable cities	R&D for optimal solutions that support industries and adaptation
Participatory governance	Industries with a low ecological footprint
Policy integration	Citizens aware of climate and environmental issues

Co-production of the roadmap for achieving the vision

Group A constructed its roadmap around the goal of poverty and social fractures' reduction, which could be achieved – to an extent – through the creation of employment and sustainable and resilient territories (Figure 8). The group focused on the role of multi-level governance and adopted a multi-scalar approach to the issue – highlighting the importance of the territorial (regional and local) spatial scale in decision-making. Starting from reflecting on immediate actions, the group highlighted the importance of Morocco's engagement and leadership in climate change and sustainable development international initiatives and commitments. They stressed the need for a climate-sensitive finance law, i.e., climate change adaptation needs but also climate constrains to be meaningfully included in the *Loi de Finance* under consideration, and for efficient decentralisation to avoid a two-speed development in the country and eliminate the development divides across territories through the delegation of central power and budget. Moving to the regional and local levels, the group stressed the need for the territorial development plans to integrate climate change, sustainability and resilience considerations, something that presupposes the strengthening of related skills and capacities by the local actors (elected actors and policy makers). The sum of these steps will create the framework needed for well-planned development and climate-sensitive strategies at the regional level. In this regard, the group emphasized that employment opportunities could arise capitalising the potential and resources at the regional level (national parks, mountains, reserves, gastronomy…) for the development of sustainable tourism – especially in the form of ecotourism. Besides tourism, the group highlighted the potential of a contextualised and territorial specific circular economy and the need for industries in integrating circular economy to manage the significant amount of waste while creating new job opportunities. Education for the youth and technical training on the environment and climate change for the policy makers and operational personnel are transversal, important levers for enabling innovation achieving the vision.

Group B acknowledged the rich human and natural capital of Morocco (Figure 9), which was explained to be specific for different territories with their resources and population, and thus, the group stressed that together with a national vision and goals, additional visions at the territorial level should be formulated. In this regard, the Morocco's centralised governance system was commented to be problematic,

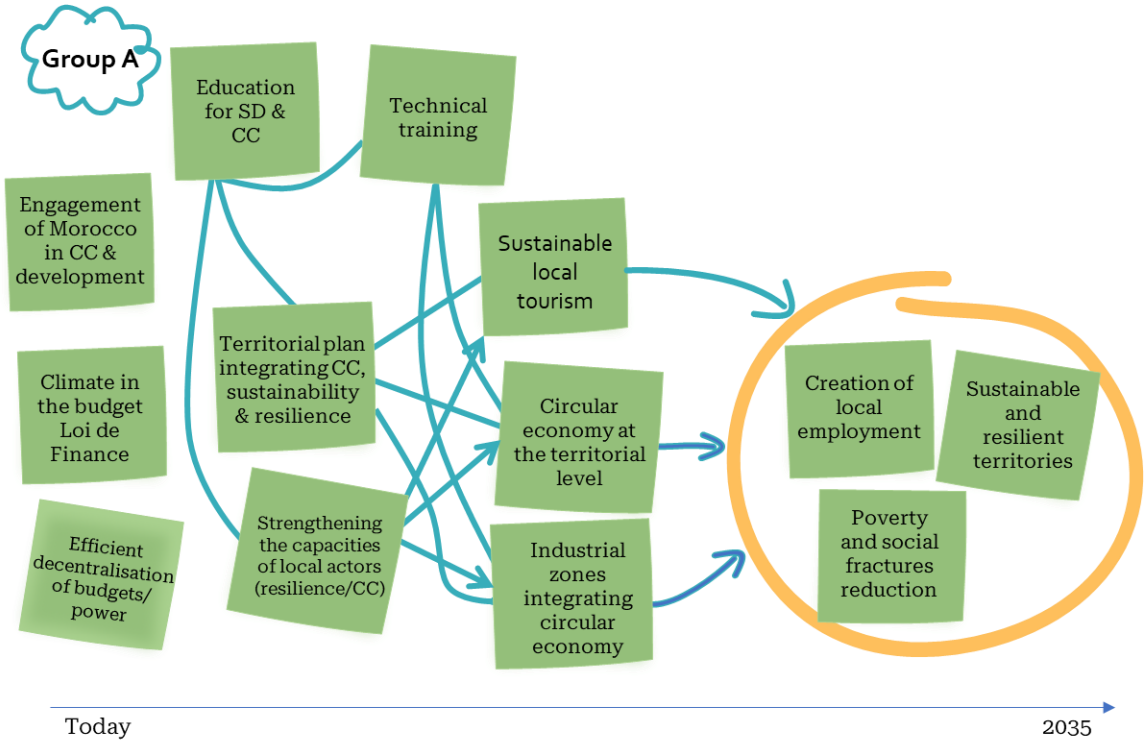


FIGURE 8 SUSTAINABLE AND RESILIENT MOROCCO ROADMAP, WORKSHOP II, GROUP A

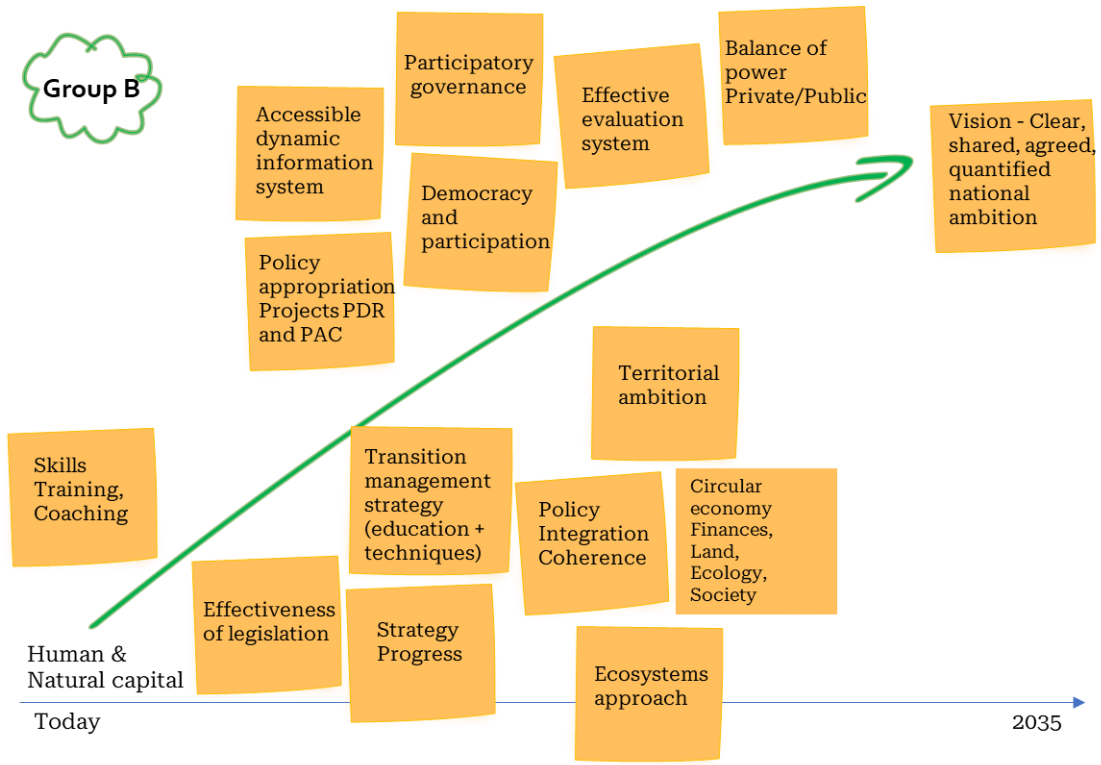


FIGURE 9 SUSTAINABLE AND RESILIENT MOROCCO ROADMAP, WORKSHOP II, GROUP B

especially considering the significant heterogeneity of the country (oases, mountains, coasts, cities…). The rest of the roadmap aims at recognizing and valorising Morocco's territories and capital with goals that are more than universal values (e.g., equity) and they go a step further to be shared, clear, quantified and very specific, transparent ambitions – both national and tailored to the different territories. To address the ambitions, different actors have to work on developing strategies, programmes and projects that will be coherent

between them and with the national vision. National and territorial integration of policies together with an effective, reflexive and flexible legislation as a tool to address the diverse aims are part of what the group termed the 'navigation system of the transition/change management' toward the sustainable and resilient Morocco. The rest elements of the roadmap are the pillars of the roadmap and vision with first and vert important, according to the group, education and communication. Education and communication were mentioned as prerequisites for the development of citizenship, for the population to be able to appropriate the change, the development and the adaptation (to climate change) – particularly when considering that the 33% of the population is illiterate. The group claimed the need for communication to be budgeted across programmes and projects throughout their life-cycle and for an education that is dynamic and more than schooling. Meaningful and 'real' participatory democracy, accessible and dynamic information and evaluation systems for the policies, and an 'ecosystemic' approach to development, i.e., addressing social, economic, environmental, financial and territorial aspects of development as interlinked, were noted as additional pillars of the roadmap.

3.3 ADAPTtoDEVELOP Workshop III

Date and time: *22 September 2021, 09h00-13h00*

Location: *Belgian Embassy, Rabat*

Number of participants: *7*

Profiles of participants: ***National institutions*** *(Ministère de la transition Énergétique et du Développement Durable),* ***Academics*** *(Université Hassan II de Casablanca),* ***Development agencies*** *(GIZ, Enabel),* ***civil society*** *(Alliance Marocaine pour le Climat et le Développement Durable, Coalition Marocaine pour la Justice Climatique),* ***NGOs*** *(ECHOS communication).*

Assessment and mapping of current and future socio-environmental challenges

The participants highlighted diverse challenges at a broad (national) level; they did this while acknowledging social and territorial heterogeneities and development disparities as a challenge in itself. The uneven water availability across territories was mentioned as an important factor contributing to territorial disparities and limiting the development potential. The (often subsequent) social disparities contribute to a rapid urbanisation and rural-urban migration and have brought up new territorial and social challenges (e.g., land abandonment, loss of agricultural land, unemployment). The actual and potential impact of climate change on water and food security due to high exposure and vulnerability of the country, along with the management of climatic and other risks were also mentioned as pressing challenges at national level. In terms of the political economy and governance/policies, the participants described a rigid political and economic system that seems to be of limited 'transformative' potential in the sense of transitioning to a new economic model – more aligned with sustainability and resilience values or obtaining a more systemic, cross-sectoral governance and policy approach. At this moment the decentralisation efforts, initiated in 2011, were mentioned as a governance challenge of which the effective implementation has been delayed significantly and has so far given mixed results. Finally, the participants noted the issues of public health – related to the environmental status, as well as the lack of environmental education.

Co-creation of a socio-environmental vision

Table 3 presents some of the most valued and shared among the participants elements structuring the vision of an inclusive, climate resilient and sustainable Morocco, according to the results of the

participatory voting. The exercise highlighted the relevance of participatory governance and effective policy making in the vision discussing through a multi-scalar approach from international governance commitments to local access to decision making. Resilience to water stress and sustainable cities were identified as the more specific, sectoral goals, while employment opportunities and expansion of the middle-class were connected to decreased vulnerability to socio-environmental change. The participants voted for training, education and awareness of sustainability and climate change challenges for the co-production of resilience. Women's' empowerment, cultural and territorial anchoring of the development-climate change efforts and a governance system prepared to address internal/global migratory flows were also stressed as important elements for a vision that addresses the persisting gender inequalities, territorial and cultural heterogeneity, and increasing migration flows in Morocco.

TABLE 3 ELEMENTS OF VISION WORKSHOP III

Suggested by the research team	Suggested by the participants
Participatory governance	International governance commitments on climate
Integration of policies	Effective policy prioritisation, financing, implementation, monitoring
Resilience to water stress	Employment and expansion of the middle class
Sustainable cities	Education and awareness
Training of people	Cultural and territorial anchoring
Gender – Women's empowerment	Preparedness and management of internal/global migratory flows

Co-production of the roadmap for achieving the vision

Group A focused on what the group characterised as the 'most pressing environmental issue in Morocco', the resilience to water stress (Figure 10). At the same time, the group highlighted that this is a concrete example of a 'governance challenge' that can easily be generalised and reflects other environmental issues in Morocco as well. Starting from the short-term actions, the group suggested the creation of a structure for exchange and arbitration between different water uses. For formulating this structure, the creation of a common understanding of the potentials and challenges in the water sector, and the clarification of roles and responsibilities between the different stakeholders (including the private sector) is necessary. At medium-term, the group envisioned the establishment of solidarity relationships between regions, through the integration of water governance across sectors and of water management across all sources of water. The group also highlighted the need to overcome the existing concentration and fragmentation at the territorial level (between regions), and at the administrative level (between ministries), in order to develop policies that are tailored to the needs and specificities of the different territories. For a clear articulation of roles and distribution of responsibilities at such a multi-level and complex water governance system, the group proposed the introduction of 'coaches', i.e., professionals that are capable to monitor the governance system and ensure its proper function in terms of interactions among the stakeholders. Monitoring and evaluation permit an adaptive water governance and management approach and ensures social-learning.

Group B acknowledged a broad vision and commitment of Morocco that should be the guiding thread for the roadmap: a sustainable development with its three pillars (social, environmental, economic) and the horizontal, transversal dimension of the governance (Figure 11). The group used this vision as the starting point of their roadmap giving particular focus to the 'uncontested priority of governance'. To develop a 'participatory governance platform', the group suggested five actions: i) the effective involvement of the population and all actors in climate plans, ii) a decentralisation process to give the

floor to the local communities at the regional and local levels, iii) empowering the elected officials and the local communities to take responsibilities by building their capacities and, most importantly, iv) providing financial means, and v) developing partnerships to address the divergence in objectives and

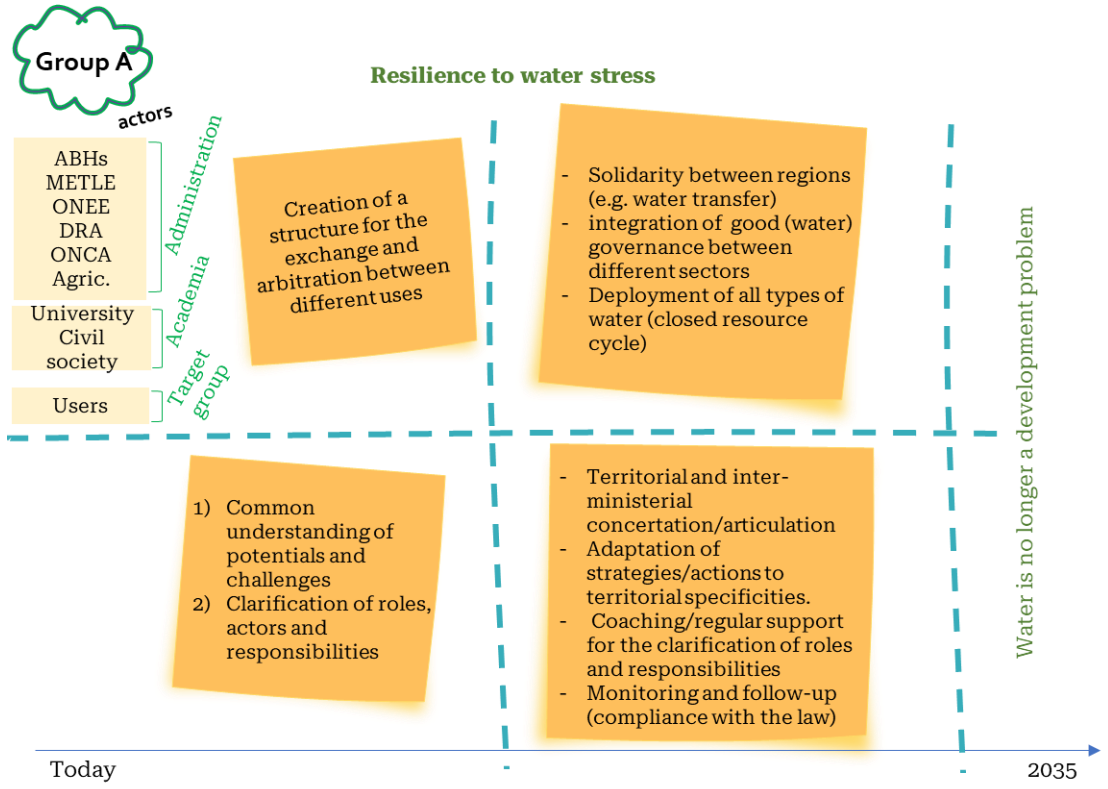


FIGURE 10 RESILIENCE TO WATER STRESS ROADMAP, WORKSHOP III, GROUP A

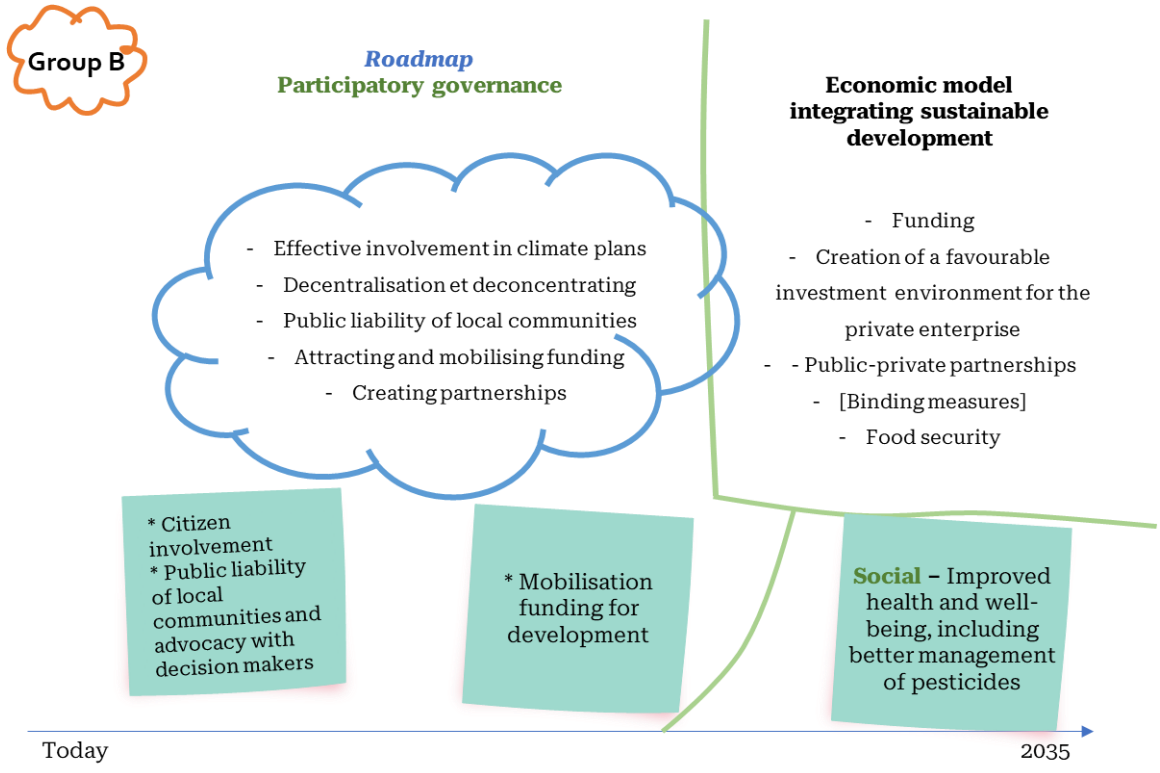


FIGURE 11 SUSTAINABLE AND RESILIENT MOROCCO ROADMAP, WORKSHOP III, GROUP B

discourses and co-produce solutions. The group then referred to a substantial aspect and precondition for achieving sustainable development, a flourishing economy that will finance the actions towards sustainable development. There, the group highlighted the role of the private sector and the need for the public sector to create a favourable investment environment while flowing a clear system of regulation for environmental protection. Group B concluded with referring to food security and health as important and interlinked challenges to be addressed for Morocco in the context of sustainable development and climate change due to a persisting dependence on imports for food with a parallel intensification of agriculture through the use of pesticides.

3.4 Pointers on the role of the development cooperation in the development-climate change nexus in Morocco

Box 1. Summary of participants' pointers on the role of the development cooperation in the development-climate change nexus in Morocco

Towards a territorial approach

- Adapt and implement methodologies and tools keeping in mind the specificities of the country.
- Work at the territorial level, and tailor initiatives according to the needs of local communities.
- Invest on multi-sectoral strategies and cross-cutting governance challenges.
- Involve local knowledge, local skills, universities, associations, etc. to define, translate and operationalise visions and roadmaps, as well as to select priority sectors of intervention.

Governance issues and relationship with the central government

- Support Morocco and sub-national territories in reaching global targets and agendas.
- Develop a vision and initiatives that construct synergies with what already exists. Do not substitute roles but reinforce, empower what is working *("The idea of cooperation is to meet on common objectives and shared expected results"*).
- Explore ways forward that go beyond the alternatives pursued by the central government.
- Act critical on problematic, controversial issues; e.g., avoid supporting companies or sectors that generate environmental or social harm. Select carefully where to act and with whom to work.

Multi-actor efforts, the role of different actors

- Enhance participatory democracy, inclusive initiatives and synergies between actors. All types of (territorial) actors should find their place in development cooperation efforts (variety of skills, types of knowledge, contexts).
- Support local decision-makers and practitioners in the implementation of their different sustainability agendas *("We are implementing territorial coaching and training local development coordinators working on the relationship and communication between local civil society, decision makers and economic actors")*
- Include civil society actors yet don't forget to support these groups with funding and knowledge. Offer support to associations in their public communication, awareness and capacity building roles, as well as in their internal governance (development of organisational skills).
- Consider the central role of scientists in e.g., training, accompanying and evaluating.

Youth, women and vulnerable groups as target

- Support vulnerable groups that are usually excluded from the traditional spaces of participation, e.g., rural population living in remote areas, people with disabilities, youth and women.
- Intervene where there is potential for viable economic activities to simultaneously fight poverty and stimulate ecosystems resilience.
- Offer training opportunities and concrete opportunities for the implementation of good practices.
- Target funds to train and employ young people, e.g., through internships offered by researchers.

What type of projects and initiatives?

- Develop small pilot projects (seed funding) and exploit their demonstration effect. Projects should emanate from teams and actors from the ground (*"Small pilot projects are used to train young people and researchers as well as to take action"*).
- Stimulate initiatives that empower civil society, e.g., small projects in partnership with municipalities for green space, music, cultural activities, etc.
- Stimulate R+D and develop partnerships for the creation of employment in sectors contributing to sustainable development and climate adaptation.
- Capitalize on the existing associative sector, currently leading interesting bottom-up projects. Support their activities in view of linking them with current national priorities.
- Share knowledge, increase visibility of good practices and pass on positive experiences and results within Morocco and beyond. Visibility and knowledge sharing are crucial.

Funding

- Add to the funds and efforts that the country is mobilising for sustainable development e.g., national plan on waste management and recycling, which could be part of a shared vision for Africa.
- Other funding options include (i) Green Fund for associations to work with communities; (ii) European Bank which requires that Morocco complies with certain environmental standards that have not been reached.

Monitoring and assessments

- To avoid repeating the same mistakes, implement effective monitoring and evaluation tools.
- Implement monitoring and evaluation tools that comprise multiple criteria and actors (participatory evaluation)
- Share and discuss project's results with all concerned actors (*"People are keen to see the results of their contributions, and they want to know what these exchanges and workshops have achieved and what they will be used for"*).

4. Conclusions and lessons learned

In ADAPTtoDEVELOP, we conducted research on the development-climate change nexus in Morocco in order to help the DGD in defining strategic and operational steps to dive into Morocco's development challenges considering, in an integrative way, environmental and climate change aspects. To do this, building on the latest developments in the broader sustainability sciences, we applied a participatory research methodology to co-produce with various actors in Morocco an inclusive, climate-resilient and sustainable vision for the country, as well as a roadmap defining Morocco's priorities in terms of the development-climate change nexus.

This document reports on the rationale and methodological steps undertaken from the preparation to the conduction phase of the ADAPTtoDEVELOP workshops and on the results per workshop. Organizing the methodology of our project around the ADAPTtoDEVELOP workshops – central elements and the 'action phase' of this work – during the preparatory phase of the workshops, we developed an analytical framework to guide both the whole participatory exercise and the analysis of the results (Deliverable 1). As a preparation for the workshops, we also conducted desktop research and semi-structured interviews, focusing on selected clusters of socio-economic sectors to ground the analytical framework to the Moroccan reality. Finally, we developed the workshops using a constellation of foresight participatory exercises, i.e., participatory exercises that employ methods for dealing with the future. The workshops were organized into two parts: Part I 'challenges and vision', and Part II (co-production of the) 'roadmap'. Part I resulted in a shared socio-environmental vision in the form of clustered ideas of what an inclusive, climate-resilient, and socially-sustainable Morocco 'should' look like in 2035. Part II resulted in the co-production of roadmaps in the form of clustered, time-wise ordered ideas on actions to be taken in order to attain parts of or the broader vision as this was previously defined. In September

2021, we applied this method during three workshops in Morocco. The workshops brought together Moroccan institutions, civil society, academics, donors and development cooperation actors, who enthusiastically got involved in a reflective and co-production process that – according to their feedback – was very much needed.

The workshops' participants discussed on Morocco's current and future socio-environmental challenges highlighting the heterogeneity of the Moroccan territory and identifying the cities, the coast, the mountains, the desert and the oases all as hotspots for action. The issue of water stress and the need for better water governance and management dominated many of the discussions. Additional issues discussed include but are not limited to erosion and biodiversity loss, deforestation, management of energy resources, urbanisation and loss of agricultural land, as well as more socio-centred challenges like education, women's and youth empowerment, cross-sectoral participatory governance, territorial and social disparities, migration, a rigid political and economic system and the challenge of decentralisation. At that occasion, we could perceive how the exercise-built awareness on needs on the ground but also on gaps of knowledge with issues/territories that need further investigation. The development of the vision and the roadmap were then closely related to those challenges. Elements of the vision proposed by us that are cutting across the three workshops are resilience to water stress, sustainable cities, and peoples' training. It is interesting to note that in the first workshop, dominated by scientists, the participants focused on the elements proposed on infrastructure and technologies, while at the other two workshops, dominated by policy, development actors and the civil society, the focus was on participatory governance and policy integration. Although this is a small and not representative sample, we could reflect here on the different ways to address the development-climate change nexus (Deliverable 1) and on the importance of bringing together different perspectives and knowledge. The participants brought forward additional insightful elements to construct their vision. We could observe how this exercise stimulated animated discussions within and between working groups as participants 'escaped' from the reality and restrictions of their working and everyday life and were just let free to imagine the future according to values that were proved to be shared among many of them. During the last exercise, in which the different groups expressed their enthusiasm for being given the time and space to collaboratively brainstorm on potential pathways for action, the participants could select one or more elements of the vision in order to collectively build their roadmaps. Three out of six roadmaps focused on goals related to water stress and all the roadmaps contemplated extensively on the importance, structure and role of a participatory governance for navigating the development-climate change nexus. It was then without surprise that when discussing the role of the development cooperation in addressing the development-climate change nexus in Morocco, the participants insisted on the potential of the development cooperation to contribute in the decentralisation efforts in Morocco by bridging the ambitions at the central level with the socio-environmental needs of the local (highly heterogeneous) territories. This proposition echoes the calls for effective and inclusive community-based adaptation efforts, and for the potential of the development cooperation in engaging with the more transformative aspects of the development-climate change nexus (Deliverable 1 and 4-6).

We were glad to see that the participants were eager to engage in the discussions that our workshops fostered. The participants explicitly mentioned their appreciation for bringing the development-climate change nexus issue in Morocco to the foreground through a participatory process and at a 'neutral' platform, highlighting both the relevance of the challenge for Morocco and the need to further engage with it collaboratively and by establishing partnerships. Indeed, the workshops brought up the idea to the participants and the engagement from our side to develop a network for reflection, exchange and taking action on the topic. In this sense, and taking into account that this is a PSR project, we consider these participatory workshops to have been a success as they have worked as more than 'new ways of producing science' and seem to be catalysing new partnerships that may inspire future

collaborations and will hopefully support a certain policy and social change (Wyborn et al., 2019: 320). At the same time, the results of the workshops in terms of content validate the participatory methodology adopted in this project. It has become clear that developing and implementing development efforts that are integrated and mutually supportive with climate change related strategies and actions, or in other words, addressing the development-climate change nexus, demands more than a thematic integration in the development agendas. The development-climate change nexus demands new approaches that build engagement, commitment and social-learning among relevant actors to address the institutional/governance factors hindering the progress on the matter, and open up new possibilities for joint programmes and projects. Finally, it has to be noted that the participatory methodology presented in this report has been developed with the specific participants in mind. The participants, representing Moroccan institutions, civil society, academics, donors and development cooperation actors, are generally accustomed to the vocabulary and sometimes-challenging exercises that the workshops' included and thus were easy to be kept engaged and achieve results. Focusing on the development-climate change nexus in Morocco, this exploratory exercise highlighted the relevance and need to expand the endeavour and include youth, women, the private sector and more general local communities in pilot territories. In such a case, the activities should be adapted and tailored to the participants' profiles and the territorial specificities.

References

Cook, E. M., Berbés-Blázquez, M., Mannetti, L. M., Grimm, N. B., Iwaniec, D. M., & Muñoz-Erickson, T. A. (2021). Setting the Stage for Co-production. *Resilient Urban Futures*, 99.

Funder, M., Lindegaard, L. S., Friis-Hansen, E., & Ladekjaer Gravesen, M. (2020). *Integrating Climate Change Adaptation and Development* (Issue April). Danish Institute for International Studies.

Patton, M. Q. (2002). *Qualitative research and evaluation methods*, 3rd ed. Thousand Oaks, CA. Sage.

Pereira, L., Frantzeskaki, N., Hebinck, A. et al. (2020). Transformative spaces in the making: key lessons from nine cases in the Global South. *Sustainability Science, 15*, 161–178. doi: 10.1007/s11625-019-00749-x

Pereira, L. M., Hichert, T., Hamann, M., Preiser, R., & Biggs, R. (2018). Using futures methods to create transformative spaces: Visions of a good Anthropocene in southern Africa. *Ecology and Society*, 23(1), 19. doi:10.5751/ES-09907-230119

Van den Ende, M. A., Wardekker, J. A., Mees, H. L. P., Hegger, D. L. T., & Vervoort, J. M. (2021). *Towards a climate-resilient future together. A toolbox with participatory foresight methods, tools and examples from climate and food governance*. Copernicus Institute of Sustainable Development, Utrecht University.

Wyborn, C., Datta, A., Montana, J., Ryan, M., Leith, P., Chaffin, B., Miller, C., & Van Kerkhoff, L. (2019). Co-producing sustainability: reordering the governance of science, policy, and practice. *Annual Review of Environment and Resources, 44*, 319-346.

Annex 1 Example of interview guide and interviewees' profiles

Interview guide used for the Agriculture-Forestry-Biodiversity pilot domain

Demographics

1. Can you tell me your full name, and what role/expertise you have in your organisation? Can you tell me more about the role of your organisation in biodiversity-agriculture-forestry in Morocco?

Current situation – vulnerabilities, impacts, capacities

2. What do you consider the most urgent or critical challenges in the field of biodiversity in Morocco today? Regarding environmental issues such as climate change, or socio-economic challenges.

3. In your opinion, which groups, or territories, or ecosystems in Morocco are particularly exposed or vulnerable to the risks or challenges you have mentioned?

4. According to you, why are they particularly exposed or vulnerable? What are the parameters that determine this exposure or vulnerability?
    a. What about women and young people specifically?
    b. What about nomadic populations, or for example peoples who are highly dependent on particular natural resources, such as the Amazigh peoples?
    c. I've read that the southern provinces are particularly exposed to soil degradation and desertification, and that the oasis ecosystems and the argan forests are particularly threatened. What do you think about this? Are there other (more) important ecosystems to consider in the context of environmental challenges? Which perhaps are particularly exposed or vulnerable but often forgotten in research and discussions?

5. When talking about environmental challenges, and in particular climate change, an important dimension is the capacity of communities and individuals to adapt. What do you consider to be critical factors limiting the capacity of communities, households or individuals to adapt to the impacts of climate change today in the field of biodiversity? What do you see as the main assets or opportunities for communities, households or individuals to adapt to environmental change? Do all actors have access to the necessary information, skills, technologies, … needed for adaptation?

Existing actions

6. Does your organisation implement any programmes or interventions that take a more integrated or systemic approach, for example by working transversally across sectors? I have seen that GIZ has developed a climate proofing strategy. Can this strategy support a truly integrated approach to climate change adaptation and development? Are there any new plans, ideas, new strategies, … being implemented by GIZ in Morocco?

7. What programmes, interventions, or other initiatives (your own or of other organisations) have been successful in supporting communities to cope with or adapt to the impacts of climate change in Morocco in the field of biodiversity? What are the critical success factors in these actions? What were challenges or obstacles to success?

8. Do/did these actions affect particularly vulnerable groups or territories? If so, how are/were they involved or affected? If not, why not?

Governance

9. With regard to your organisation's actions, programmes, etc: Who are the important partners in adaptation to environmental challenges? Who would you like to collaborate with, or who needs to be involved in what way, to improve existing actions, programmes, ...?

10. More generally, what do you think is a critical constraint, weakness, missing element in the current governance of efforts to protect biodiversity and adapt to environmental challenges? Are there any major institutional constraints?

    a) If not mentioned: What do you think of the decision-making structure today? I understand that the government has put in place a decentralisation or regionalisation process. What do you think of this process? Are there any important success factors? Are there opportunities for improvement? What do you think of the level of dialogue and participation of communities in government policies and development programmes?

Future – the way forward

In our project we aim to work towards transformative adaptation to environmental challenges, i.e., a way of adapting to environmental challenges that addresses both environmental and socio-economic needs at the same time, that manages to address the structural causes of poverty, vulnerability, and marginalization *through* adaptation.

11. The literature puts forward several types of strategies that can help to move towards transformative adaptation (in theory). Examples are
    a. organic farming, agroecology or agroforestry?
    b. payments for ecosystem services (e.g., through carbon credits, soft loans) for those who invest in reforestation of degraded land, soil improvement, ...

    Do you see value in any of these strategies in the context in which you work? Who do you think would benefit from such programmes? Would they be accessible to more marginalized or vulnerable groups?

12. Where do you see key synergies or win-wins between the subsectors of the pilot domain that are currently untapped or under-exploited in adaptation efforts, and that could help address socio-economic vulnerabilities?

13. What critical trade-offs do you see between the subsectors of the pilot domain that are not sufficiently addressed or mitigated by current adaptation efforts?

14. What actions, policies or programmes do you think could be put in place to make (better) use of these opportunities, or better handle these trade-offs? To works towards such transformative adaptation? They can be ideas that are feasible, or that are currently not feasible

    a) If they are currently not feasible, why not? What would need to be done to make them a reality?

    b) What should/could Belgian development cooperation focus on to support Morocco in adapting to environmental challenges? Where can they be most complementary?

Interviewees' profiles

Organisation	**Gender**	**Date of interview**
Pilot Domain: Agriculture-Forestry-Biodiversity		
Convention on Biological Diversity for Morocco	Male	15 July 2021

Ministry of Energy, Mines, and the Environment	Female	15 July 2021
GIZ Morocco	Male	19 August 2021
Moroccan Biodiversity and Livelihoods Association	Male	2 September 2021
Pilot Domain: Tourism-Migration-Urbanization		
University of Antwerp	Female	28 May 2021
University of Antwerp	Female	28 May 2021
Swisscontact	Male	15 July 2021
Heinrich Böll Stiftung	Male	31 August 2021
Pilot Domain: Water-Energy-Food		
FAO Morocco	Female	08 July 2021
Overseas Development Institute	Male	19 July 2021
National Office of Electricity and Drinking Water (ONEE)	Male	19 October 2021

Annex 2 Example of workshops' agenda

Atelier 'Réflexion pour une feuille de route socio-environnementale pour la coopération belge au Maroc'

Ambassade de Belgique à Rabat, 22 septembre 2021, 09h00-13h00

Agenda

09h00-09h15	Accueil des participants
09h15 – 10h00	▪ Présentation du projet ADAPTtoDEVELOP ▪ Tour de table ▪ Présentation de la première activité de l'atelier
10h00 - 11h00	Ateliers participatifs première partie : Enjeux et vision Quelques questions à débattre ▪ Impact des changements climatiques et les défis socio-environnementaux dans différents territoires du Maroc ▪ Cocréation d'une vision socio-environnementale pour le Maroc
11h00 - 11h20	Pause-café
11h20h - 12h45	Ateliers participatifs deuxième partie : Feuille de route ▪ Présentation de la deuxième activité de l'atelier Vulnérabilité et adaptation : quelques questions à débattre ▪ Une feuille de route socio-environnementale pour atteindre la vision : Actions prioritaires (Court, moyen et long terme) ▪ Le rôle de la coopération au développement (bonnes pratiques et exemples, synergies, inspirer, consolider et innover, débloquer)
12h45 – 13h00	Débriefing Clôture de l'atelier