

Supplementary S2: Methodology followed in the development of the scenarios workshops.

The original data obtained in the workshops is archived in Zorrilla-Miras, P., Matediane, J., ... & Patenaude, G. (2018). Scenarios of future land use change in Mozambique (2014 and 2015). NERC Environmental Information Data Centre. <https://doi.org/10.5285/97c65c35-1db5-49d5-8ee0-ae5c7b699634>.

1. First round of workshops: Maputo and Xai-Xai, 2014

The methodology presented here was implemented in a first set of two Scenarios workshops developed in 2014 as part of the ACES project in Maputo and Xai-Xai to obtain the inputs to construct scenarios of future land use change in rural Mozambique.

The data were collected in different ways and formats: 1) one to three persons took notes during the workshops; 2) we recorded most of the discussions after obtaining the acceptance from the participants for doing so; 3) we took pictures of the materials generated, with the necessary quality to read and interpret the content. Two persons were in charge of the writing down the results from the workshops in the presented documents: one of them wrote a first version, which was then reviewed by a second person. Both persons had been present during the workshops. Both of them did a final review of the documents, and then were approved as official results from the project.

1.1.Objective of the workshops

The main objective of the workshops is to take into account the main aspects that influence wellbeing, how are they related between them and between ecosystem services, miombo woodland and land use changes. The next objective is to receive ideas of possible actions that could contribute to poverty alleviation and biodiversity conservation. The general objective at this stage was to take into account as much variables as possible, to ensure that we did not miss any important variable. The next stage was to select the most important variables from the first ones. Additional “impact” objectives were to give new knowledge, to make the people to think about their concerns and understandings and to make their voice hear.

The workshops that followed this methodology took place in:

Maputo: 13/08/2014

Xai-Xai: 14/08/2014

1.2.Output

Most important and most uncertain drivers for scenarios construction.

1.3.Methodology used in Maputo and Xai Xai

13th August 2014: 2nd day of the National workshop in Maputo.

14th August 2014: Provincial workshop in Xai Xai.

The workshops were divided in two parts, one devoted to BBN and the second to scenarios construction. Participants were divided in 3 groups. In Maputo there was one group for Manica, one for Niassa and one for National policies. In Xai Xai they were divided randomly.

The workshop in Maputo was not audio recorded, but it was in Xai Xai. It was not recorded in Maputo because we thought that audio recording could condition the free discussion between participants. But after the workshops in Maputo we realized there were not extremely conflictive issues arising along the workshop and that participants would not have problems with recording. In Xai Xai we asked them if they allowed us to record the conversations and they allowed us. After the workshop we concluded that there was no problem with recording.

People taking notes was not completely successfully done. This was a problem because the workshops coincided with the beginning of the ACES fieldwork campaign and the ACES team was very busy those days. In Maputo two students were present in 2 groups, but they only wrote the main conclusions of each session (morning and afternoon). One researcher was present in the third group, but she could not be involved during the entire preparation meeting. We should have one person along the full day responsible for each group. It would be recommended that the people taking notes was part of ACES team. This person should be present during the preparation of the workshops in Mozambique. And they should be well trained: to know what is important to write and what it is not so important: it is important the main ideas by each participant, how the ideas are coming out along the discussion, write down who says each idea, etc. The result should be a description of the discussion process. It is not important repetition ideas, ideas that are not related with the discussion, ideas not well explained...

1.4.Detailed timetable (Maputo)

8:45-9:00		
Presentation of the agenda	Plenary session	3 min.
Presentation of the participatory process to be held with BBN and scenarios.		5 min.
Presentation of the participants		5 min.
9:00-9:15		
Present research questions, our proposal and get feedback from them. What variables am I trying to impact? (Objective variables or indicators) 1. Rural well-being: how to measure? district, villages, families, persons? 2. Woodland cover and biodiversity. 3. Ecosystem services. Define the physical boundaries. Our Proposal: 3 Districts Define timescale. 1, 2, 3, 4, 5, 10, 15, 20 years?	Plenary session	15 min

We presented some slides and ask feedback from them. There were not a lot of ideas and participation. It was the first activity of the day, and probably we should have thought for a more participatory activity of doing this.		
13:30-13:35		
Discuss the aims of the scenarios exercise: It is not to predict the future, but to construct different plausible with the aim to be prepared for different futures, and that our planned actions can reach a greater success. It is also to construct a desired future, so that we can know what we want as a first step, and then find the way to reach it. 5 Steps of scenarios construction. These scenarios will articulate ways in which rural poverty can be alleviated by the optimal management of landscapes to support ES and human wellbeing. We presented these issues in a brief power point presentation (4 slides).	Plenary session	5 min
13:35-14:20 Scenario development		
Identify Key drivers. What are drivers of change? (1 Slide explaining) Each group identified the main drivers affecting human wellbeing, forest degradation and land use change in the 3 study areas. We used KETSO (3 slides). There were 5 different types of drivers: social, technological, economics, environmental and political. Each participant should write 1 factor of each type. Actually, the groups started to write drivers as a group activity and not individually.	3 Groups (provinces)	45 minutes
14:20-15:05		
Identify previous drivers as most important. Each participant added 2 red sticks to the most important drivers and 2 white sticks to the less important ones. Then they summed the votes. Finally, the group agreed the 2 most important drivers.	3 Groups Mixed from previous groups	25 min
Identify previous drivers as most uncertain. We explained trying to make clear the difference between certain and Uncertain drivers (1 slide). Participants added 2 red sticks to the most uncertain drivers and 2 white sticks to the most certain drivers. Then they summed the votes. Finally, the group agreed the 2 most uncertain drivers.		20 min
15:05-15:30 Tea/coffee break		
15:30-16:30		
Report back of the group work from each group (5 minutes explaining each group). After the explanation of each group, the received questions from the other groups.	Plenary session	60 min
We did not have time to try to come to a consensus of the plenary about the 2 most important and 2 most uncertain drivers.		0
16:30-16:45		
We made a brief summary of the day and closing remarks.	Plenary session	15 min

1.5.Detailed timetable (Xai Xai)

8:30-9:00		
Presentation of the agenda	Plenary session	3 min.
Presentation of the participatory process to be held with BBN and scenarios.		5 min.
Presentation of the participants		5 min.
Present research questions, our proposal and get feedback from them.		15 min
9:00-9:05		
<p>Discuss the aims of the scenarios exercise:</p> <p>It is not to predict the future, but to construct different plausible with the aim to be prepared for different futures, and that our planned actions can reach a greater success. It is also to construct a desired future, so that we can know what we want as a first step, and then find the way to reach it.</p> <p>5 Steps of scenarios construction.</p> <p>These scenarios will articulate ways in which rural poverty can be alleviated by the optimal management of landscapes to support ES and human wellbeing.</p> <p>We presented these issues in a brief power point presentation (4 slides).</p>	Plenary session	5 min
9:05-9:50 Scenario development		
<p>Identify Key drivers. What are drivers of change? (1 Slide explaining)</p> <p>Each group identified the main drivers affecting human wellbeing, forest degradation and land use change in the 3 areas of study.</p> <p>We used KETSO (3 slides). There were 5 different types of drivers: social, technological, economics, environmental and political.</p> <p>Each participant should write 1 factor of each type. Actually, the groups started to write drivers as a group activity and not individually.</p>	3 Groups (provinces)	45 minutes
9:50-10:50		
<p>Identify previous drivers as most important. Each participant added 2 red sticks to the most important drivers and 2 white sticks to the less important ones. Then they summed the votes.</p> <p>Finally, the group agreed the 2 most important drivers.</p>	3 Groups Mixed from previous groups	30 min
<p>Identify previous drivers as most uncertain. We explained trying to make clear the difference between certain and Uncertain drivers (1 slide).</p> <p>Participants added 2 red sticks to the most uncertain drivers and 2 white sticks to the most certain drivers. Then they summed the votes.</p> <p>Finally, the group agreed the 2 most uncertain drivers.</p>		30 min
10:50-11:50		
<p>Report back of the group work from each group (5 minutes explaining each group). After the explanation of each group, the received questions from the other groups.</p>	Plenary session	60 min
<p>We did not have time to try to come to a consensus of the plenary about the 2 most important and 2 most uncertain drivers.</p>		0
11:50-12:05		

Summary of the day and closing remarks.	Plenary session	15 min
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2. Second round of workshops: Maputo, Lichinga and Quelimane, 2015

The methodology presented here was followed to continue the previously explained workshops to obtain the inputs to finish the construction of Scenarios of future land use change in rural Mozambique. The workshops that followed this methodology took place in:

Maputo: 12/08/2015

Lichinga: 04/08/2015

Quelimane: 28/10/2015

The data were collected in different ways and formats: 1) one to three persons took notes during the workshops; 2) we recorded most of the discussions after obtaining the acceptance from the participants for doing so; 3) we took pictures of the materials generated, with the necessary quality to read and interpret the content. Two persons were in charge of the writing down the results from the workshops in the presented documents: one of them wrote a first version, which was then reviewed by a second person. Both persons had been present during the workshops. Both of them did a final review of the documents, and then were approved as official results from the project.

2.1. Objective of the workshops

The main objective of the workshops was to take into account the main aspects that influence wellbeing, how are they related between them and between ecosystem services, miombo woodland and land use changes. The next objective was to receive ideas of possible actions that could contribute to poverty alleviation and biodiversity conservation. The objectives of the workshops were:

- To evaluate the proposed scenarios constructed with the input from previous workshops.
- Get input to construct definitive scenarios of the future.
- Collect input on how the scenarios would change the land use in the future.
- Collect possible interventions under the different scenarios to diminish land use change (forest loss) (and improve poverty alleviation).
- To collect information to construct the provincial scenarios.

Additional “impact” objectives are to give new knowledge, to make the people to think about their concerns and understandings and to make their voice hear.

2.2. Output

- List of proposed changes to national scenarios.
- List of key definitions for provincial scenarios.
- Selected key drivers by groups and in plenary.
- Agreed big pictures of scenarios.
- Input about other than key drivers.
- List of interventions under each scenario plus individual and group votes about those most relevant interventions under the different scenarios. Agreed important interventions common to all interventions.

- Table with the land use changes under each scenario
- A table relating interventions and land use categories indicating the most probable impacts.
- Stakeholder concerns, understandings, and the different views from different stakeholders.

2.3. Workshop methodology followed

The major issues addressed within the sessions of the programme are included in the next paragraphs.

2.3.1. Session on Scenarios refinement

The session started in plenary and the facilitator explained with the help of a power point presentation the ACEs scenario process we had developed so far (the workshops of previous year, how the research team processed the results: selection of drivers, preparation of the narratives and of the workshop, etc.). Then, the facilitator presented the three storylines proposed: explained the main ideas of each scenario, the main drivers of change, and the main differences between scenarios (with the help of a power point presentation).

The participants were divided in 5 groups and each group worked with one thematic area. The thematic areas were: social, environmental, political, economic or technological. The material used by each group was an A0 paper with the assumptions of the 3 scenarios proposed in each thematic area. Also, the documents were used with some guiding questions (included in a A4 page) that they should respond through their comments (plausibility of the scenario, if one factor needed more attention, if there was any important driver not included or that should be taken out).

Each group discussed and evaluated the scenarios, proposing changes to their view and reality. We kept reminding participants that these are scenarios, not predictions. The participants could read and consult the different materials that explained the proposed scenarios.

We found it was very important the explanation the scenarios orally in plenary, and a very a clear explanation by the facilitators to questions that arose during the session.

During the exercise, the participants wrote and post their comments and suggestions about the scenarios. During the first part of the session (for approximately the first 45 minutes) questions were done to the facilitators to clarify the scenarios.

After presenting all the drivers to the participants, the facilitator asked if there was any important driver missing. In that case, they discussed and agreed to include a new driver and what state it could take in 2035. Finally, each group explained to the other groups their results and a brief discussion followed.

2.3.2. Session on Effects of each scenario on land use change

An introduction to land use change was done. We divided the participants in six groups. Three groups worked with one method and the other 3 groups with different method.

- First 3 groups:

We gave each group a working document of A0 size. In this document, we included the main land use categories in the left, the area those categories occupy currently, and the last changes in area at District level. A brief presentation of the document and objective of the session was carried out by the facilitators. The participants discussed the changes that could affect each land use category, one at a time based (each group working only under one of the three Scenarios A, B and C), and the main reasons or drivers that affected the changes (the facilitator

checked that the proposed drivers are consistent with that scenario). Also, an enjoyable discussion was done about the mechanisms to regulate those drivers by the participants of the workshop. They filled in the table with the percentage of change that each land cover class could experience under each scenario, with the drivers of those changes and with the mechanisms to regulate them.

- Second 3 groups:

The second 3 groups received one A0 document. This document had proposition of the evolution of land use changes, ecosystem services availability and rural wellbeing for the three scenarios. After, a brief presentation of this document by the facilitators, a discussion was carried out by the participants in order to agree or disagree about the evolutions proposed. They had to review it and propose changes.

The results are not very valuable because they tended to assign to each parameter the most probable future state, and not the possible state according to the scenarios. By the end, the differences between the 3 scenarios were very little (the results of the 3 scenarios responded to the most probable and not to the suppositions of each scenario). After finishing the work, each group presented their results and participants discussed about them in plenary discussion.

2.4.Detailed timetable

Agenda for Scenario development	
Time	Presentation and exercises
9:00-9:10	Opening of the seminar
9:00-11:00	Quick round of presentation of the participants Workshop aims Introduction to the project ACEs Definition of scenarios Presentation of the ACEs scenario process Presentation of the three storylines
11:00-11:30	Morning coffee
11:30-13:00	Group Exercise - split into 5 groups Read, deconstruct and refine scenarios Fill in response forms
13:00-14:00	Each group reports back their main findings to the other groups.
14:00-15:00	Lunch
15:00-16:00	Session intro presentation: Effects of each scenario on land use change Group Exercise - 3 groups: Effects of each scenario on land use change

Agenda for Scenario development	
Time	Presentation and exercises
16:00-18:00	Report back on Effects of each scenario on land use change to the other groups.
5 minutes	Final conclusions and close
	End and refreshing