Building Future Governance, Land Use, and Carbon Management Scenarios at the Landscape Scale on Unguja Island

Global Comparative Study on REDD+ Multilevel Governance and Carbon Management at the Landscape Scale

Martin Kijazi

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CIFOR

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Report

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3   INTRODUCTION AND OBJECTIVES

The Zanzibar workshop presented here and similar workshops were designed in order to meet several objectives associated with CIFOR's study of multilevel governance and carbon management at the landscape scale. Though we reviewed multiple existing facilitation methods, we did not find any that met our specific needs, which were based on *working with multiple stakeholders to develop future land use scenarios over detailed, bounded landscapes that encompass multiple actors and drivers of land use change.* The method we developed draws on the facilitation of landscape scenarios at smaller scales, combining experience from participatory action research and adaptive collaborative management at community level (Evans et al. 2006), and at much larger (multi-country) scales, adapting important concepts such as "factors of change" from the program on Climate Change Agriculture and Food Security (CCAFS) (http://ccafs.cgiar.org/scenarios), and the methodology "landscape simulation for participatory land use planning" developed by Jeremy Bourgoin and Jean-Christophe Castella. The resulting method applied in these workshops is particularly useful for landscapes of 50,000 to 500,000 hectares – large enough to comprise multiple drivers and actors, but small enough to build on concrete knowledge of the geographical location. An accurate current land use map is an essential part of the exercise. The guide detailing the methods (Ravikumar et al. 2014) is provided separately at the CIFOR website, and can be downloaded for free: http://www.cifor.org/library/5360/building-future-scenarios-governance-land-use-and-carbon-management-at-the-landscape-scale/

In this report, the elaboration of alternative future scenarios is followed by the application of a simplified tool to model the carbon emissions patterns and outcomes of each option; this tool will be provided separately on the project web site, and apart from the findings from analysis of the Unguja island landscape in Zanzibar presented

here, the tool itself is not included in the workshop activities. Finally, the workshop concludes with a discussion of pathways for reaching desirable scenarios, including of multilevel governance and the development of criteria and indicators for change. The methods detailed in the guide mentioned above have been adapted for particular needs of the Unguja Island.

3.1   Overall objective of the workshop was to:

Develop plausible future scenarios of land use on Unguja Island, calculate the carbon emissions implications of these distinct scenarios, and discuss strategies and activities for moving towards the desirable scenario(s).

3.2   Specific Objectives of the workshop were to:

- Examine past land uses and change over time on Unguja island
- Develop future scenarios of land use at the landscape scale using participatory approaches
- Apply a simple carbon tool to calculate the carbon emissions implications of the distinct land use scenarios
- Identify key elements of multilevel governance and take steps towards the design and implementation of a governance monitoring tool

The Zanzibar workshop included participants that represent all levels and sectors that have an interest in, or influence over, the landscape. This included representatives from the public sectors, non-governmental organizations (NGOs), and civil society as appropriate. In addition, actors from local/sub national and national levels were involved. Some key actors who participated include:

- National Government (key ministries and departments including: Ministry of Agriculture, Department of Forestry and Non-Renewable Natural Resources; Department of Urban and Rural Planning, and Department of Environment)

- Sub-national government, including local/district governments (and key departments – agriculture, forestry & environment)

- Sub-district representatives from Shehiyas (Wards)

- NGOs

- Community-based organizations, authorities, and committees

- Academic institutions

A complete list of participants is provided in Annex A.

4   PRESENTATION & STRUCTURE

The workshop was conducted from 24-25 February 2015, in the conference room of Mazsons Hotel, in Stone Town, Zanzibar. The workshop was conducted in Kiswahili in order to allow all participants to follow and feel free to participate. There were many participants who are competent in English. However, given that there were participants from diverse backgrounds (national to community level), it was agreed that Swahili (or more appropriately referred to as 'Kiswahili'), which is the national language of Tanzania and major medium of communication was the more inclusive language. But the technical terms were presented in both English and Kiswahili for the benefits of those who are competent in both languages. While this report is in English, some key technical terms used in the Workshop are also at times presented in brackets – for the benefit of readers who are Kiswahili speakers. A list of key technical terms used during the workshop in both English and Kiswahili is presented below (Table 1).

This workshop took place over the course of two days:

- The first day was focused on developing future scenarios of land use, and several activities were utilized to accomplish this: a visioning exercise to encourage creative thinking and orient participants towards ideas of future scenarios, constructing a timeline of key events in the past, defining key "factors of change" (*sababu za mabadiliko*) that are likely to shape future scenarios, characterization of various scenarios based on these factors, development of scenario narratives, and finally mapping land use changes under the distinct scenarios.
- The second day was dedicated to presenting models of the carbon implications of the scenarios constructed during the first day, discussing multilevel governance, indicators and governance monitoring.

Table 1. English to Kiswahili Translation of Key Workshop Concepts

Factors of Change	Sababu za madadiliko /visababishi vya madadiliko
Scenario	Hali
Landscape	Uhalisia /Mjumuisho wa matumizi ya ardhi
Future scenarios	Hali za baadae
Time line	Historia ya matukio
Important	Muhimu
Uncertain	Isiyotabirika kwa urahisi
Constructing future scenarios of land use	kufikiria hali za baadae za matumizi ya ardhi
Narrative of future scenarios of land use	Maelezo ya hali za baadae za matumizi ya ardhi
Most desirable scenario	Hali unayohitajika zaidi
Most Likely scenario	Hali inayowezekana zaidi
Carbon modeling	Kukadiria kiwango cha hewa ukaa
Implications of future scenarios for carbon	Uelekeo/uashiria wa hali za baadae za hewa ukaa
Indicator	Kiashiria
Identifying strategies to reach desirable future	Kuainisha mikakati ya kufikia hali ya baadae tunayohitaji
Monitoring indicators of multilevel governance	Ufuatiliaji wa viashiria vya utawala wa ngazi mbalimbali
Governance (who makes decisions, and how decisions are made)	Utawala (nani anafanya maamuzi, na yanafanyikaje)
Good governance	Utawala bora
Pillars of good governance	Mihimili/nguzo ya utawala bora
• Transparency	uwazi
• representation	uwakilishi
• participation	ushiriki
• accountability	uwajibikaji
Governance indicators	Viashiria vya utawala

5 FRAMEWORK AND METHODOLOGY

This workshop methodology is based on the construction of "future scenarios" of land use. Future scenarios (*hali za baadaye*) are not predictions but rather hypothetical futures that could plausibly occur. Taking into account current and past drivers of change, and key existing uncertainties, diverse future scenarios are developed through narratives, images, statistics, and/or maps. Future scenarios can be a useful planning tool, as they allow for consideration of complexity and future uncertainty, taking into account the diversity of factors that may influence planning and future outcomes.

The methodology focuses on a landscape – in this case Unguja island landscape - or geographically defined area with multiple land uses, where actors from diverse levels and sectors have an interest or influence. Decision-making about land use in the landscape is thus an inherently multilevel process, characterized by multilevel governance. Thus, this workshop aimed to include representatives from most relevant actors for the Unjuja island landscape, from the local to national level, and also across relevant sectors (e.g. agriculture, forestry, urban planning, rural planning, environment, etc).

The methodology for developing future scenarios presented here involved the following activities:
1. Voyage to the future – visioning (*Safari za kwenda siku za baadaye*)
In this activity, participants reflected individually on the characteristics that a desirable future landscape would have. They were asked to close their eyes and imagine a better future 30 years down the line, noting what they see,

what changes have occurred, and how the world looks. The goal of this activity was to orient participants towards their expectations and the future thinking and to "get the creativity flowing."

2. Trip to the past – timeline of land use change (*Safari za kurudi tulikotoka*)
The goal of this activity was to construct a participatory timeline of events over the past 20 years. The facilitators asked participants in plenary, to name key events that have shaped and changed land use in the landscape. Identifying what events have been critical in the past was subsequently used to inform the identification of factors of change that are likely to be key determinants of future scenarios in the following activity.

3. Factors of change (*sababu za mabadiliko*)
Keeping in mind the key events identified in the previous activity, and remembering the aspects of a desirable future that were shared in the visioning exercise, participants worked in "thematic groups" to identify about five key "factors of change" that are likely to shape land use in the future. For each factor of change, possible future states were discussed. Thematic groups include actors that work in similar levels or sectors, and were decided by facilitators based on who actually attended the workshop. In the Zanzibar workshop, participants were divided into (a) national government, (b) district government, (c) NGOs and civil society, and (d) Community groups & Academic institutions

4. Voting for the most important and uncertain factors *(Kupigia kura sababu za mabadiliko zilizo muhimu na zisizotabirika zaidi)*
After consolidating the factors of change to eliminate redundancy, each participant voted for the four factors that s/he found most important, and the four factors that s/he found most uncertain. Five factors that turned out to be most important and also uncertain were selected.

5. Elaborating the future scenarios *(Kufikiri na kuelezea hali za baadaye)*
The workshop facilitators combined the different future states of the identified factors to present four distinct future scenarios, each with a different combination of factor states, for 30 years in the future. After receiving feedback from the participants and making any modifications, they divided the participants into groups, this time randomly rather than thematically. Each group worked on one of the scenarios, constructing a narrative that describes how the landscape reached this condition, using the states of factors of change presented for their scenario. After exploring the scenario deeply, they drew the physical land use changes that would exist under this scenario on a map.

6. Presentation of the carbon tool *(Kuwasilisha kikokotoaji cha kukadiria hewa ukaa)*
The team presented the methodology behind the carbon calculator (*kikokotoaji cha hewa ukaa*), and then presented the carbon emissions implications of the scenarios developed in the workshop.

7. Strategies and steps
After considering which scenarios are most desirable, the participants reflected individually on key steps that would need to be taken to get to the desirable future scenario. The participants then worked in their groups again to share their reflections, and developed a table answering the following questions for a number of those steps: (1) what needs to be done? (2) how will these things be done? And (3) who will have to do them? In addition, each group identified barriers to these steps and how these barriers might be overcome.

8. Multilevel governance: concept, indicators, and monitoring *(utawala wa ngazi mbalimbali: dhana, viashiria, na ufuatiliaji)*
After a brainstorm where participants shared what they understand the term "governance" *(utawala)* to mean, the facilitators present definitions of "governance," "multilevel governance," *(utawala wa ngazi mbalimbali)* "governance indicators," *(viashiria vya utawala)* and "governance monitoring." *(ufuatiliaji wa utawala)*. Returning to the same groups from the previous activity, participants select one or two of the steps that they identified, and discuss (1) indicators of governance that should be measured (what should be measured?), (2) who should be in charge of monitoring these indicators?, (3) how should these indicators be monitored?, and (4) when should these indicators be monitored?

9. Open discussion on governance
Finally, the facilitation team and participants shared experiences and observations related to multilevel governance.

6   DAY 1: FUTURE SCENARIOS OF LAND USE

Agenda	
TIME	**ACTIVITY**
08:30-09:00	Participant registration
09:00-09:30	Opening remarks, workshop objectives and agenda
09:30-10:00	Participant introductions and ice-breaker, including visioning optionally
10:00-11:00	"Trips to the Past:" Construct a timeline of key events in the past 20-30 years related to land use change
11:00-11:15	Coffee break
11:15-12:30	Factors of change (I) Identify factors of change that influence land use and states that they may take on in thematic groups
12:30-13:00	Factors of change (II) Select the factors of change that are most important, and also most uncertain
13:00-14:00	Lunch
14:00-14:30	Presentation of the proposed scenarios, combinations of different states of the factors selected determined by facilitation team
14:30-16:30	Discussion of future scenarios of land use Develop narratives for each scenario in mixed groups and draw land use changes on maps for each scenario
16:30-16:45	Break
16:45-17:30	Present scenario narratives and maps Each group presents their future scenario narrative and map
17:30-18:00	Survey Participants vote for which scenario they think is most desirable, and which is most probable They also provide feedback on their role on the governance of the landscape

6.1   Welcome, Presentation of the Agenda, and Introduction of Participants

Approximate time and scope: 30 minutes, plenary

The lead facilitator (Martin Kijazi):
1. Introduced the workshop the broader project that the facilitation team is undertaking that led to the workshop
2. Presented the **Unguja island** landscape that would be the focus of the workshop
3. Described the agenda for the workshop, and mentioned any key ground rules for the workshop
4. Went around the room for both the facilitators and participants to introduce themselves. Participants were asked to briefly "envision" a better future for the Unguja island to encourage creative thinking early in the workshop

The introduction was made brief and conversational. The lead facilitator also laid out some ground rules for the workshop, noting that there is a diversity of actors presents (*different organizations and different levels of the government*), and that there could be varied perspectives on the issues discussed. Therefore, the facilitator pointed out that all participants' perspectives are valuable, and that this workshop should be as safe a space as possible for perspectives to be shared (Fig 1). The map of the landscape (Unguja Island) was described quickly focusing mainly on the current main land covers/uses that would be the focus of the workshop, which included: Agriculture, Forest tree plantation, Coral rag scrub, Agroforestry, Mangrove, Settlement, Coral rag forest, High forest, and Barren land (Fig. 2).

Fig 1. Workshop introduction - CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Photo by: Ashwin Ravikumar
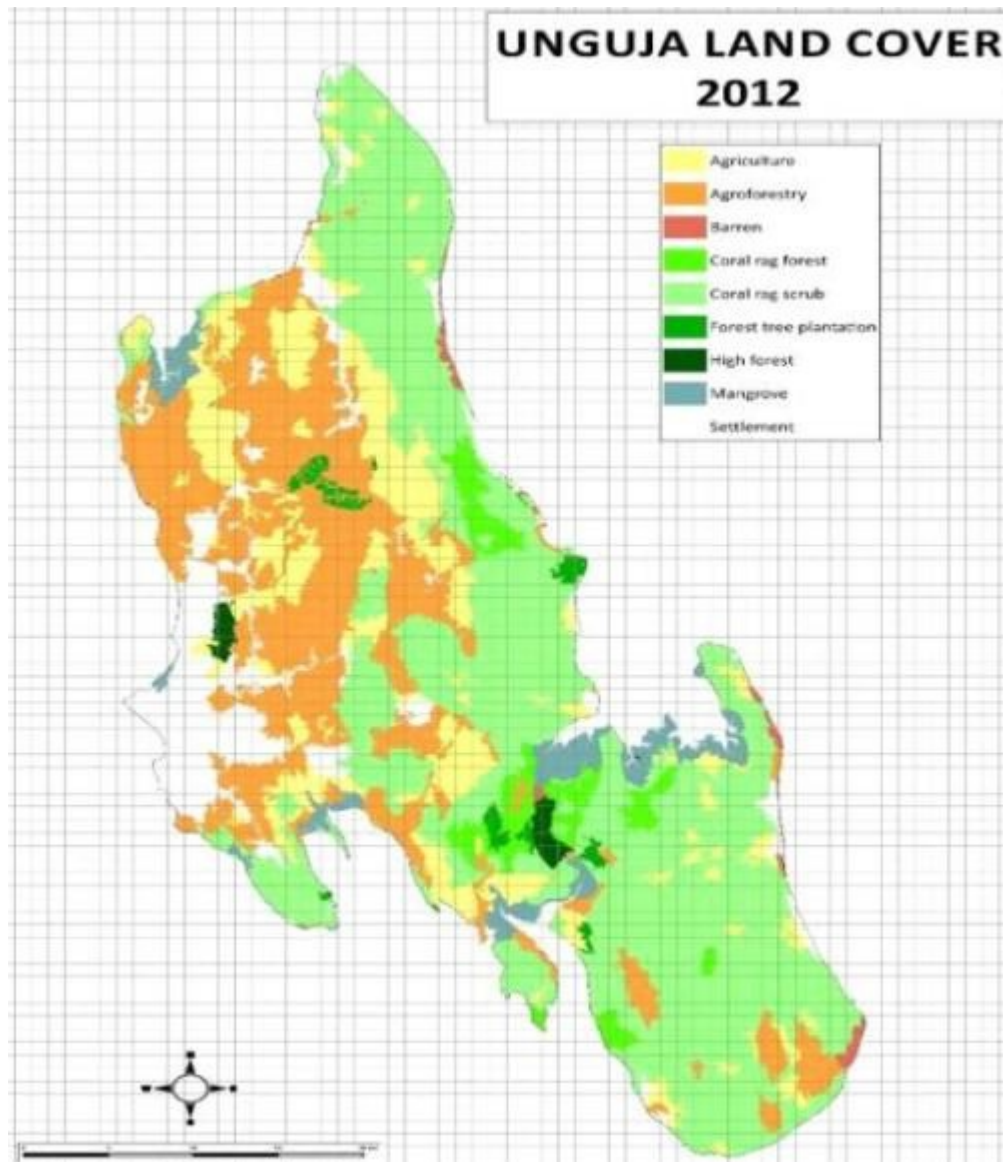
Fig 2. Map of the Unguja island landscape - (CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Map Source: Viikki Tropical Resources Institute – VITRI, University of Helsinki

6.2 Timeline and History – "Journey to the Past" / *"Safari za kwenda tulikotoka"*

Approximate time and scope: 30-60 minutes, plenary

Objective
The objective of this activity was to identify key moments, events, and eras in the past 20-30 years that generated changes in land use that explain the Unguja island landscape as it is today. In addition to bringing everyone to the same page on key historical events, this activity also served to identify the types of events that have driven change historically, and by extension suggest what factors may shape land use changes in the future. This is important

because the following activities aimed to identify these "factors of change" (*sababu za mabadiliko*) that will be critical in the future.

This activity consisted of the following steps:
1.The lead facilitator introduced the activity, explaining that the aim is to construct a timeline with the most crucial events and "moments" in the history of land use in the Unguja island landscape
2. A local facilitator, Mr. Ngwali Haji Makame, asked general questions aimed including different versions of the following questions and follow-ups to them:
When did land use in Unguja island landscape change the most? What caused these changes?"

- *"What were the most critical events that led to changes in land use?"*
- *"Are there any activities that have expanded over time? What are these activities, and why did they change?"*
- *"Have there been any changes in policies that have affected land use?"*
- *"Have people migrated over the past 20 years? What has driven migrations and movements of people?"*

3. It was considered best to have one facilitator (Ngwali Haji Makame, who was the most knowledgeable of the landscape in question among the facilitators) to ask these questions to participants, encouraging participants to provide new inputs that haven't already been mentioned. As he asked these questions, another facilitator wrote the responses down on large cards and the third facilitator stuck them to the wall along the timeline (Fig 3).
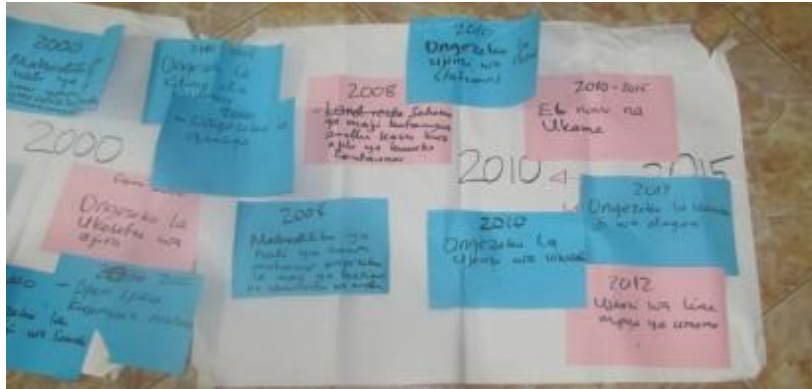
Fig 3. Timeline and History – "Journey to the Past" / "*Safari za kwenda tulikotoka*"

The key events highlighted on the timeline by different periods are the following:

During the 1980s: Lands for traditional rituals were neglected as people began to put more priority on money; Life became harder/more expensive, but some people made more money quickly; more houses were built; burial areas were moved from urban centers due to dense population; agricultural lands were invaded for human settlement; intensified exploitation of mangrove forests; there were policy changes towards privatization and private investment; increase in shifting cultivation; lower prices for cloves caused increased cultivation of other spices, trees, and rice. **Key events of 1990s include**: poor implementation of policies; people moved close to water sources; low clove prices led to cutting clove trees for firewood; changes in agricultural policy transformed ranches into settlement areas; rapid population increase; increase in infrastructure development; building of a lot of hotels leading to high water consumption, and making areas close to the coast not available for cultivation; more tree planting to provide wood for building hotel roofs; population increase; price of electricity increased; higher demand for natural resources such as wood, sand, gravel, etc.; tourism increased; changes in policy to increase community participation in forestry and environmental conservation; coconut trees increasingly used as building material, as fuel-wood, and for making furniture; increased immigration due to removal of passport requirements for neighboring countries. **2000s were characterized b**y; Changes in weather e.g. strong winds which cause soil erosion; unemployment increased; open spaces increasingly used for building hotels; fish farming increased; agricultural intensification/permanent farming increased; changes in weather/climate which led to sea water seepage into some inlands reducing their suitability for farming; construction of more car maintenance garages in urban centers and along the major roads; some sea land reclamation to provide space for storage of containers. **From 2010 onwards** there has been; More construction of petrol stations across the island; intense weather patterns including frequent *El Niño* and draughts; increased industrialization; construction of new power lines; intensification of sea-food production and processing(drying).

6.3   Identifying factors of change (Kutambua Sababu za mabadiliko)

Approximate time: 60-70 minutes, plenary, individual, and break-out groups

Objective
Keeping in mind the key events identified in the previous activity (Fig 3), participants worked in groups to identify "factors of change" (*sababu za mabadiliko*) that are likely to influence land use in the future landscape.

Part 1: Conceptual explanation in plenary (5 min.)

The lead facilitator briefly explained what a "factor of change" (*sababu ya mabadiliko*) is. This facilitator highlighted that factors of change are variable, and are likely to exert an influence on the landscape looking to the future. The facilitator cited from the timeline some "factors" that affected land use in the past (*sababu za mabadiliko ya matumizi ya ardhi ya zamani*), as mentioned by the participants such as the *decreasing price of cloves (kushuka kwa bei ya karafuu)* and *tourism promotion policy (sera ya kukuza utalii)* in Zanzibar. In the future, therefore, the price of cloves may or may not be a factor of change. Similarly tourism promotion/policy was considered as another possible future factor of change. Another key feature of "factors of change" is that they may take on multiple "states" (sababu za mabadiliko huchukua sura ama tabia tofauti tofauti). The price of cloves, for example, may be either "high," "low," or "in between." The lead facilitator framed in reference to how the price of cloves may "rise," "fall," or "remain constant." Facilitators explained this concept and ensured that all participants understood, prior to moving into individual work and then breakout groups.

Part 2: Individual work (10 min.)

1. The lead facilitator asked the participants:

- *"What is causing land use change in the landscape? Considering what they know about the landscape, and what we've just discussed about its history, what are the main factors that are likely to be important going forward?"*
- *"What factors are likely to be important (sababu zilizo muhimu), and also not easy to predict (zisizotabirika kwa urahisi)?"*

2. The lead facilitator asked the participants to write down between three and seven factors of change that will affect land use in the future. These factors may be legal and policy-based (sababu *za kisheria ama kisera*), political (*za kisiasa*), environmental (*za kimazingira*), social (*za kijamii*), economic (*za kiuchumi)*, or of another type.

3. Other facilitators circulated to ensure that participants understand this activity and responded to any questions.

Part 3: Group work and plenary (45 min.)

1. Participants were divided into "thematic" groups. Groups consisted of participants that work in a similar sphere. Facilitators discussed and creatively determined how optimally to do this. They agreed to divide the participants into groups based on the level of government (for government employees) and institutional affiliation for others which resulted into the following groups: Central government, District government, Academic institutions & local community (*Shehiya*) members, and members of NGOs. The following list shows how participants were divided. *Thematic Group in Zanzibar*

• Group 1: Central & Regional government
• Group 2: District government
• Group 3: Regional/Sub-national Government
• Group 4: Local community/Shehiya & Academic institutions

Fig 4. Facilitator, Mr. Otman Haule leading one group to discuss factors of change
Photo by: Martin Kijazi

Each group, with the support of a facilitator, identified five key factors of change (*sababu kuu tano za mabadiliko*). Each individual shared the factors they identified individually, and the facilitator or group leader wrote them down for discussion. Through consensus, or if necessary, voting, the group agreed on the five most important and wrote each one on a card (Fig 5 – Fig 8).

3. The lead facilitators asked each group to think about the following question for each factor of change identified: *"Are there distinct ways in which this factor might behave in the future? (Je zipo sifa ambazo hizi sababu za mabadiliko zinaweza kuzichukua siku za baadaye?) What are the different 'states' in which we might find this factor?" (Ni tabia gani tofauti tofauti ambazo hizi sababu za mabadiliko zaweza kuzichukua siku za baadaye?).* The group discussed, for example, if the price of cloves might be high or low, stable or volatile, if urban migration might increase or decrease, if a government policy is more likely to favor building more tourist resorts or another restricting tourist resorts in order to protect the coastal environments, etc. The facilitators paid close attention to this discussion. For example, it may be that in this landscape, the possible states of tourist numbers as well as tourist resorts would be to increase or stay the same, but never decrease. These states were discussed by the facilitators to develop alternative scenarios.

4. Returning to plenary, facilitators worked with participants to consolidate factors. Each group stuck their cards on the wall and explained them.

Fig 5. Top five factors of change identified by one group – (1) Increase in tourism (2) Implementation of (urban) development master plan (3) Proper implementation/enforcement of laws and policies (4) Conflicts/contradictions between institutions and laws (5) Disasters

Fig 6. Top five factors of change identified by one group – (1) Temperature rise due to climate change (2) Scarcity of agricultural land and natural resources (3) Poor implementation of laws and policies (4) Expansion of settlements and infrastructure (5) Large demands for natural resources.
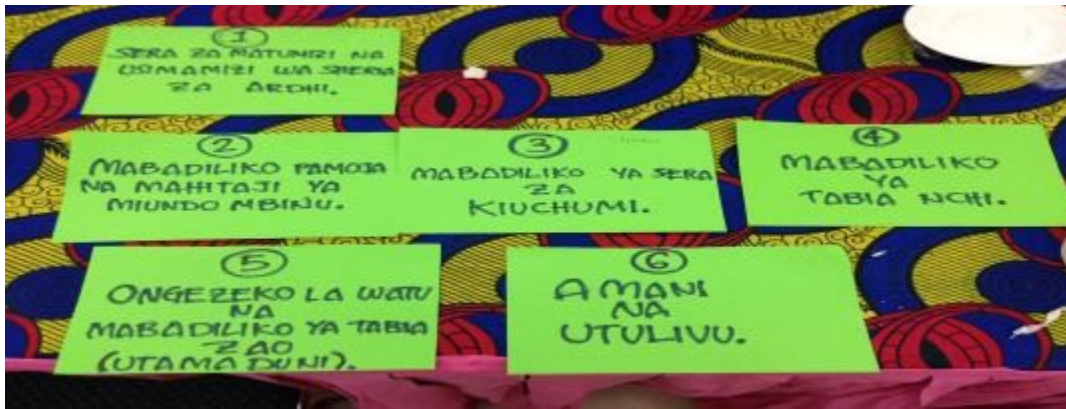Photo by: Ashwin Ravikumar

Fig 7. Top six factors of change identified by one group – (1) Land use policies and enforcement of land use laws (2) High demand and changes in infrastructure development (3) Changes in economic policies (4) Climate change (5) Population growth and cultural/social changes (6) Peace and stability
Photo by: Ashwin Ravikumar
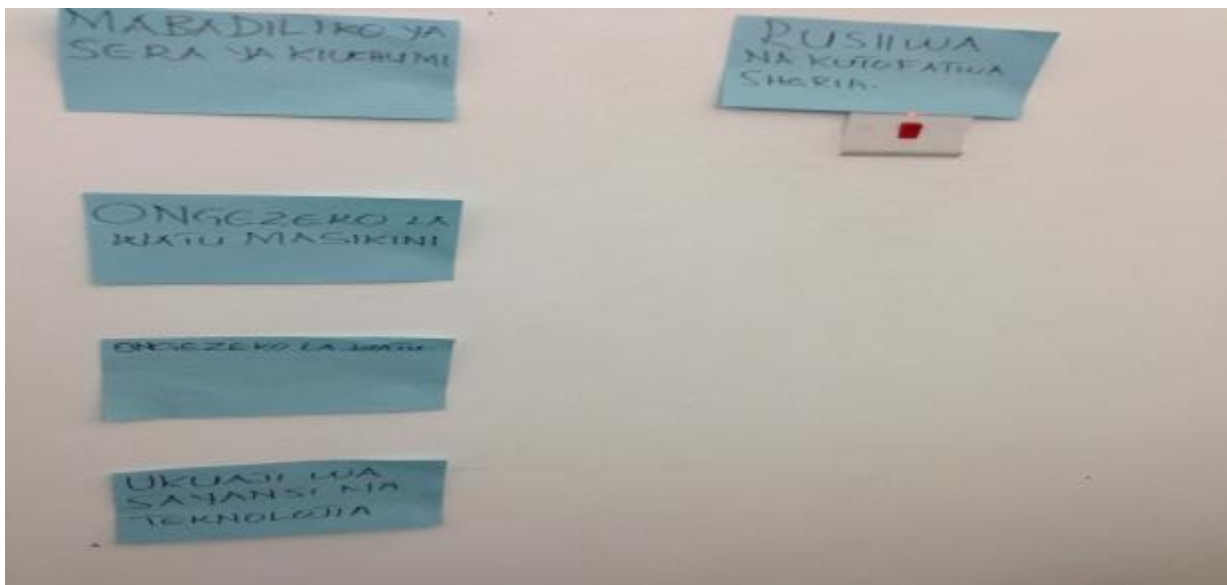
Fig 8. Top five factors of change identified by one group – (1) Changes in economic policies (2) Corruption and lack of respect for (disobedience of) the laws (3) Increase in poverty (4) Population increase (5) Development in science and technology

Photo by: Ashwin Ravikumar

Subsequently facilitators grouped similar factors (by sticking one on top of the other if they were virtually identical). Where two factors were similar enough, but not virtually identical a new factor representing the similar factors was written on a new card to describe two or more very similar factors. Facilitators asked groups if they agreed with the suggested consolidation, and ensured that participants feel the outputs from their groups are fairly and completely represented. The outputs of this component of the workshop were key, as they would ultimately shape were used to choose most important and most uncertain factors, and for developing future scenarios of land use. Facilitators ensured that participants understood the goals of this component well. In particular, factors of change that really are likely to affect land use were pulled out through strong facilitation. In addition, factors that are indeed variable were prioritized by facilitators, with input from participants.

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6.4 Selecting the most important and uncertain factors of change / Kuchagua sababu za mabadiliko zilizo muhimu zaidi, na pia zisizotabirika kwa urahisi

Approximate time: 30 minutes, plenary and individual

Objective

The goal of this activity was to select the five most "important" and "uncertain" factors from the list consolidated in the previous stage. To accomplish this in a participatory fashion, each participant voted for the five factors that they considered to be the most "important," (*sababu zilizo muhimu zaidi*) and the five that they considered most "uncertain" (*zisizo rahisi zaidi kutabirika*). Based on the vote, the factors that were widely considered to be most uncertain and also important were selected to form the basis of the future scenarios.

In plenary, the lead facilitators explained the concepts of "importance" (umuhimu) and "uncertainty" (kutotabirika) clearly. The "importance" of a factor is how large of an impact it will have on land use change in the landscape (*sababu ya mabadiliko iliyo muhimu zaidi ni ile ambayo ikibadilika sifa/tabia zake huleta mabadiliko makubwa ya matumizi ya ardhi*). The "uncertainty" of a factor is how sure we are about which of the various possible states the factor will take on – that is, how unpredictable will the behavior be in the future? (*sababu ya mabadiliko isiyotabirika ni ile ambayo si rahisi kufahamu sura/ama tabia gani itachukua siku za baadaye*) In constructing the most interesting future scenarios (future scenarios = *hali za baadaye*), it is best to have factors that are both important and also uncertain. The facilitators made sure that participants understood that uncertain factors are *desirable* in the context of this activity, and that the goal was precisely to select factors of change with a high degree of uncertainty associated with them.

Five steps were involved in this activity:
1. Each participant received five small stickers of one color (orange), and five of a different color (white).
2. The lead facilitators explained the concepts of "importance" and "uncertainty."
3. Participants were given five minutes to use their orange stickers to vote for the factors that they considered most important.
4. Participants were given five minutes to use their white stickers to vote for the factors that they considered most uncertain.
5. The facilitators counted the votes for uncertainty and importance quickly – a spreadsheet was used to do this rapidly. Since both importance and also uncertainty were desirable components of the factors of change that were ultimately selected, the five factors that had high vote counts in both categories were selected.
6. In plenary, the facilitators presented (in a PowerPoint slide) the factors that had been selected by vote, and invited any outstanding commentary and feedback from the group. This was done so that if there were strong objections to the selection, the facilitators would have made adjustments by way of dialogue, consensus, or other appropriate group decision - making strategies.

Fig 10. Voting for importance (orange stickers) and uncertainty (while stickers):
(CIFOR-VITRI workshop in Zanzibar, Tanzania, February 24-25, 2015)
Photo by Martin Kijazi

The participants were made to vote for importance and then for uncertainty in two separate rounds. This helped to avoid confusion between the activities. Facilitators strived to very clearly explain both uncertainty and importance, and ask questions at the end to ensure that all participants understood clearly what these concepts mean. In particular, it was made clear that the factors that were deemed to be both uncertain and important by the group would be selected and used as the basis for the rest of the future scenario building activities.

6.5 Constructing future scenarios of land use/Kujadili hali za baadaye za matumizi ya ardhi

Approximate time: 3.5 hours, plenary and group

Objective
This activity generated the main outputs of the first day, and the preceding activities were designed to lead up to this one. Facilitators presented distinct scenarios derived from the factors of change identified previously, and the workshop split into breakout groups, with each group working on one of the proposed scenarios. With the help of a facilitator, each group developed a scenario narrative (*Maelezo ya hali za baadae za matumizi ya ardhi*). This narrative

describes how the world will get to the state described by the factors of change in 30 years. Key plausible events in each decade leading to the scenario described were elaborated, with associated land use changes from the events described. Finally, participants drew on a physical map the likely land use changes over time, culminating in a view of land use in the landscape 30 years from the present.

Defining the distinct scenarios – internal meeting of facilitators (45 min.)

The facilitators held an internal meeting amongst themselves. The goal was to use the factors of change developed in the last session and the discussions of alternative states to describe four distinct scenarios. To do this, the facilitators thought creatively about how the factors of change identified previously might look under distinct scenarios. Because divergent carbon content in the landscape were of interest, then facilitators attempted to arrange the states of the factors of change to produce this variation. In addition, facilitators considered divergence in governance arrangements moving forward, so that distinct governance narratives emerge through this process. The goal was to generate scenarios with some plausibility, with divergence in terms of land use, and interesting and useful governance components for the remaining steps of the workshops. It was pointed to the participants that this was a creative exercise by the facilitators that would necessarily differ depending on the landscape, the context, the specific objectives of the workshop from the facilitators' perspective, and the factors of change that had been identified. The outcomes are provided below from workshops conducted in Zanzibar. In our workshops, we aimed to present divergent scenarios, such as the most and least desirable, the most conservation-oriented versus development-oriented, and the most likely if nothing were to change. These outcomes are presented to provide an idea of how scenarios can be constructed from the factors of change.

Table 2: Four (4) Future Scenarios (Hali nne (4) za baadaye) below: (The original Swahili version, followed by English translation below it)

CIFOR-VITRI workshop in Zanzibar, Tanzania, February 24-25, 2015

`	S1	S2	S3	S4
Mabadiliko ya sera za uchumi	Uwekezaji kwenye utalii unaongezeka	Uwekezaji kwenye mafuta unaongezeka	Mkakati wa kuwekeza kujikinga na mabadiliko ya tabia ya nchi	Uwekezaji kwenye utalii unaolinda mazingira
Mabadiliko Tabia ya nchi	Kima cha bahari kinaongezeka kidogo	Mabadiliko kidogo ya tabia ya nchi, kima cha bahari kinaongezeka kidogo	Kima cha bahari kinaongezeka sana. Majanga makubwa ya kubadilika tabia nchi	Kima cha bahari kinaongezeka, majanga makubwa ya madadiliko ya tabia nchi
Kuongezeka kwa utalii	Utalii Unaongezeka	Utalii Unapungua	Utalii unabakia ulivyo	Utalii unabaki ulivyo
Kuongezeka kwa idadi ya watu	Watu Wanaongezeka sana	Watu Wanaongezeka kidogo	Watu Wanaongezeka kidogo	Watu wanaongezeka sana
Uchimbaji wa mafuta	Uchimbaji Kiiasi kikubwa	Uchimbaki Kiasi kikubwa	Uchimbaji kidogo	Uchimbaji kidogo

	S1	S2	S3	S4
Changes in economic policies	Increased investment in tourism	Incresed investment in oil exploration	Strategic investments in climate change adaptation	Investments in environmental/eco-friendly tourism
Climate change	Sea level increases slightly	Mild climate change, slight increase in sea level	Dramatic increase in sea level. Environmental disasters related to climate change.	Dramatic increase in sea level. Environmental disasters related to climate change.
Tourism increases	Tourism increases	Tourism decreases	Tourism stays the same	Tourism stays the same
Population growth	High population increase	Small population increase	Small population increase	High population increase
Oil drilling	Large quantities	Large quantities	Small quantities	Small quantities

Characterizing the four scenarios in terms of land use and estimating the areas of land use change at the landscape scale: plenary and breakout groups (3 hours)

1. Presenting scenarios to participants (10 minutes)
In plenary, the facilitators presented the different scenarios to the participants and invited feedback. In particular, participants were allowed to point out that some of combinations of factors are incoherent if they felt so. In Zanzibar, participants pointed out that dramatic climate change effects (rise in sea level, environmental disasters) were not compatible with increase in tourism, as it had been originally proposed by facilitators in one of the scenarios (scenario 4). Facilitators attempted to defend this scenario by pointing out that the scenario also will involve heavy government investment in environmental friendly (eco) tourism. This will have involved developing necessary structures to protect tourism development e.g. physical construction along sea shores, as well as planting vegetation along the cost to mitigate potential erosion by sea level rise. Participants, however, insisted that tourism industry is very sensitive to environmental signals. They gave an example of the recent *Ebola* outbreak in West Africa. Despite the outbreak being many thousands of kilometers away, the tourism industry in East Africa was severely affected due to tourist cancellations. An agreement was reached between the participants and facilitators to keep tourism as 'stays the same' rather than 'increases'. That is, the government investments will only help to 'not decrease it', but will not succeed to 'increase it' under such adverse climate circumstances.

Fig 11. Participant contributing to the discussion of the consolidated scenarios:
(CIFOR-VITRI workshop in Zanzibar, Tanzania, February 24-25, 2015)
Photo by: Ashwin Ravikumar

2. Explaining the activity to participants (10 min)
In plenary, the facilitators explained carefully the activities that would be carried out in breakout groups. The construction of scenario narratives was described, and the eventual map work that would be done. Facilitators made sure that participants understood the goals of the following activities clearly. More detail on these activities is given below.

3. Analysis, scenario description, and narrative (1.5 hours)
The facilitators led a group discussion to think deeply about how the world might arrive at the state defined by the factors of change for the scenario. In particular, the group was guided to think about what key events will have to occur to bring about the world described in the scenario. What policies will be implemented? When will they be implemented? What changes will have to occur and when? Why will these changes occur? What consequences will they have? What are the key moments in the next 30 years? Facilitators asked respondents to describe the narrative in 10 - year stages. What is likely to happen in each decade? What needs to happen to bring the landscape to the condition described by the factors of change? What does this mean for land use? Participants were told that it would be useful to decompose the narrative into political, economic, environmental, cultural, and social aspects. At the same time, these other aspects of the future scenario narrative should link to land use, especially given the time constraints. Facilitation aimed to bring the discussion back to land use change. If the participants in a group found some aspect of the scenario to be incoherent or problematic, facilitators were flexible and invited changes to the factors of

change as needed. The scenario narrative were recorded in bullet points on a sheet of poster paper to share later in plenary.

Fig 12. Participants discussing scenario narratives:
(CIFOR-VITRI workshop in Zanzibar, Tanzania, February 24-25, 2015)
Photo by: Markku Larjavaara

4. Implications in terms of land use
Once scenario narratives had been developed, facilitators guided the participants to draw land use changes on the grid-box map using colored markers (because the carbon tool was also to be used, the changes from one land use to another were quantified using the grid and entered into the carbon calculator). Participant were instructed that any color could represent any land use change type – but they were to make sure that all colors used were indicated in a legend.   Since different changes may occur at different times, facilitators made sure to guide participants in marking with different shading when changes for the same land use occur at different times. Participants were instructed to mark the legend clearly so that the map could be read. Drawing in pencil or pen before coloring was suggested – it was better to arrive at a consensus first rather than coloring the map in too eagerly. Facilitators helped participants count the number of grids painted by each shade of color by participants. The different number of grids (extents of different land use changes) were subsequently used by the carbon monitoring tool researchers to calculate carbon implications of different land use changes.

Fig 13.. Participants drawing land use change implication of alternative future scenario:
(CIFOR-VITRI workshop in Zanzibar, Tanzania, February 24-25, 2015)
Photo by: Markku Larjavaara

5. Selecting a name for the scenario
Facilitators asked the group members to come up with a name that describes the scenario. The following names
were chosen: Scenario 1 = Investment (*Uwekezaji*); Scenario 2 = Discovery (*Ugunduzi*); Scenario 3 =
Environmental Conservation (*Uhifadhi wa mazingira*); Scenario 4 = Eco-tourism (*Utalii wa mazingira*)
6. Explanation of scenarios in plenary (50 min.)
In sequence, each group selected a representative to explain the scenario narrative and show the changes drawn on
the map. Participants from other groups asked questions and provided feedback. The scenario narratives presented
by participants are outlined next (name of each scenario chosen by group members is also included). The
corresponding mapped land use changes are present in Fig 14- Fig 17)

Scenario narratives

Scenario 1: Investment (*Uwekezaji*)

Factor 1: Investment in hotels will be high, with serious expansion displacing local populations.

Factor 2: Mild climate change

Factor 3 & 4: High increase in population will strain social services, and also lead to demand for more
settlements.

Factor 5: Oil drilling will be high and there may be other discoveries like natural gas. As population increases, the demand for electricity will be high. There will be a double effect: the drilling itself offshore, but also impacts on people who depend on fishing and other livelihoods. Those people will have to shift to other livelihoods, which could have impacts on the land.

Map (Fig 14): Almost all of the eastern coastline will be occupied by tourist development in the first 10 years; in the next 10 years, human settlement will move inland. Lands with other uses, even agriculture, may see conversion for tourism or use by people displaced by tourism. Sprawl will result on the island over time. Finally, there will be infrastructure to support all of these other changes, which will itself have impacts on the land.

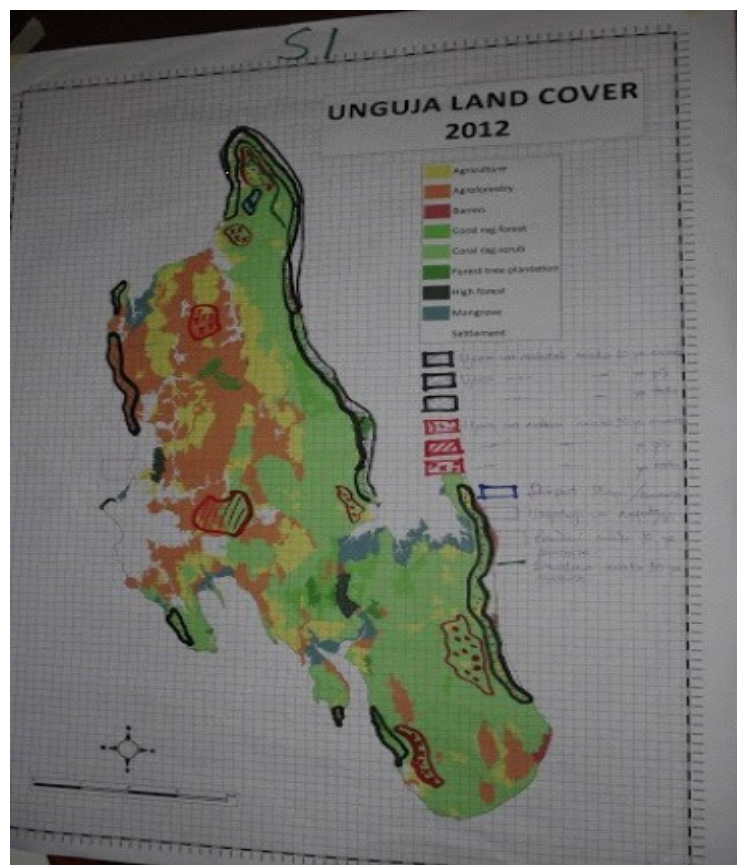Scenario 1: Investment / *Uwekezaji*

Fig 14. Map of land use change in Unguja island of Zanzibar under a distinct scenario named 'investment'/ *'uwekezaji'* (CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Map Source: Viikki Tropical Resources Institute – VITRI, University of Helsinki

Scenario 2: Discovery (Ugunduzi)

Factor 1: The first 10 years will see a huge influx of oil exploration companies from the outside. Internally, there will be a huge movement of people trying to examine possibilities on the coast. The next 10 years will see drilling, but also a huge development of infrastructure including roads and ports. The third decade will see

further drilling, but also restoration of environmental destruction using the wealth that will have been generated from oil revenues in the previous decades.

Factor 2: Climate change will shift agricultural crops.

Factor 3&4: Tourism will generally decline over time, as the island's economy orients itself towards other uses. Although population increase will be small, it will still have a serious impact because of the reduced land availability from other changes.

Factor 5: Offshore production of oil will increase.
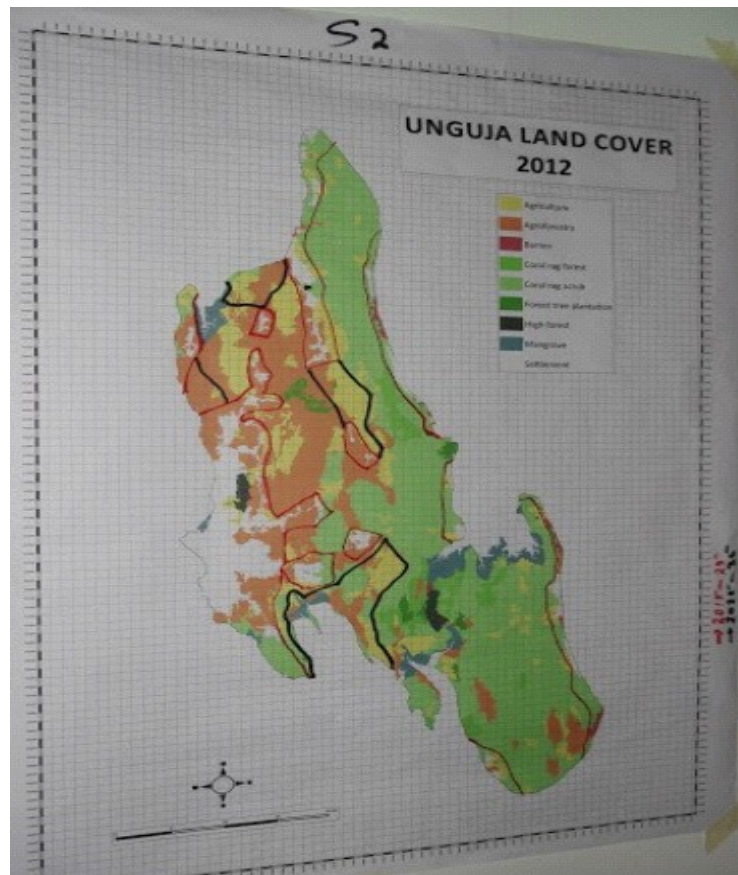
Scenario 2: Discovery / *Ugunduzi*

Fig 15. Map of land use change in Unguja island of Zanzibar under a distinct scenario named 'Discovery'/ *'Ugunduzi'* (CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Map Source: Viikki Tropical Resources Institute – VITRI, University of Helsinki

Map (Fig 15): Changes were divided into two 15 year periods. In the first period, the eastern and northwestern coastlines will see human settlement (it is currently not settled). Coral rag will also be settled and even farmed due to limited land availability elsewhere. In the second 15 year period, there will be expansion northward and southward along the western coastline due to investment in the north. However, there are some restrictions from the government, such as the Dominion Act which encourages high rises rather than urban sprawl. This will affect development. Throughout this period there will be responses from policy makers. Protected areas will be maintained, for example.

Scenario 3: Environmental Conservation (*Uhifadhi wa mazingira*)

Factor 1/2: The first 10 years will involve revisions of environmental laws. The next 10 years, up to the 20th year, there will be policies to expand forested areas. Vegetation will be planted around the coastline to bolster infrastructure to control seawater inundation. Obstructions will be created to stop the seawater from encroaching into the land. In the final 10 years, society will benefit from the improved environmental conditions. During these last 10 years, the improved areas will also be suitable to other land uses including tourism.

Factor 3: In terms of tourism, there will be little change in the next 10 years, but a slight increase thereafter. Finally, we will see more tourism due to better infrastructure and environmental management. Incomes and livelihoods will benefit from these increases.

Factor 4: Family planning policies will prevent serious population growth over the next 10 years. The 10 years beyond that will be focused on reducing outside settlement in Zanzibar. Thereafter, there will be some increases in population still, and policies take time to produce results Increase will slow down over time.

Factor 5: First 10 years will see little growth; the next 10 will involve capacity building for oil exploration. Last 10 years will see some drilling and associated increases in national income, with other opportunities.

Map (Fig 16): The main changes to the map involved coastline development including some sea level rise that will affect current areas used for tourism and settlement. Those areas will move higher up and inland. When they move, it means that some previously unsettled areas will become settled. Also because of development in the tourism sector, the priority will be tourism; those who are settled near the coast will be displaced by tourism, and move inland and elsewhere. At the same time, tourism will also develop more in private areas like the northern coast. Coral rags and coral scrubs, which are currently not highly affected by tourism, will see conversion for tourism as well. There will also be expansion in the highly populated urban area inland, there is a high forest area nearby, which may be encroached upon because there's already encroachment. With more population growth, this will increase. This area is now agroforestry and cattle. Law enforcement will be weak, encouraging encroachment in the forest, but so will political patronage.

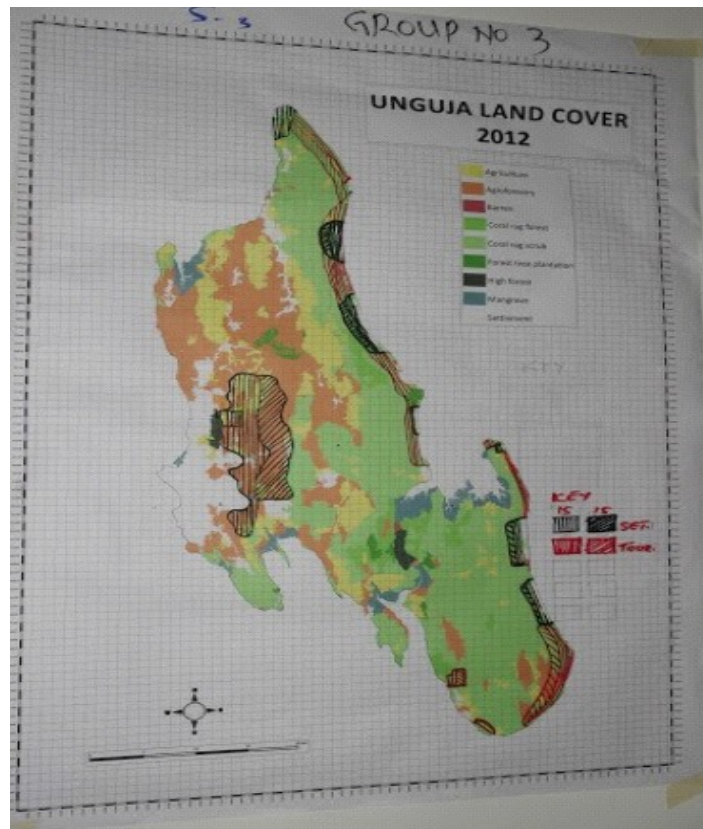Scenario 3: Environmental **Conservation** / *Uhifadhi wa mazingira*

Fig 16. Map of land use change in Unguja island of Zanzibar under a distinct scenario named 'Environmental Conservation'/ *'Uhifadhi Wa mazingira'*
(CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Map Source: Viikki Tropical Resources Institute – VITRI, University of Helsinki

Scenario 4: **Eco-tourism (Utalii wa mazingira)**

Factor 1: In the future, the government will invest more in touristic sites in areas that are already developed and therefore will not harm the environment. Historical tourism will be prioritized. They will build capacity among employees and civil servants in the first 10 years.

The next 10 years will involve promoting and improving the tourist sites, and also advertising them both within and outside of the country. After 20 years there will be high earnings and economic growth from this tourism.

Factor 2; In the first 10 years, there is weakness in the implementation of international policies like REDD+, with some places saying "why should we mitigate while others are driving climate change?" This will lead to failures to mitigate climate change.

The next 10 years will see salty seawater incursions into land areas. After 30 years there will be serious increases in temperatures and droughts. Up to this point tourism will stay the same, but after 10 more years, there will be degradation of local customs and traditions. The government will review its tourism policies in response to this cultural degradation.

Factor 3/4: Increase settlement in tourist areas will reduce agricultural land, overwhelming social services in 10 years. Poverty will increase thereafter, as increased populations from the tourism boom will not be able to be supported.

Factor 5: The first 10 years will see low investments in oil drilling. However, after 10 years, there will be international investment, and some employment from this sector. After 10 more years, there will be increases in national wealth and societal well-being.

Map: The major driver of change will be population growth – human settlements will expand. The first expansion will be in the farming areas, especially agricultural systems and farming areas. The coral rag area will also become more settled for the same reasons. The mangrove area that bridges Jozani forest will be inundated from sea level rise (the island used to be two islands; and it may become like that again). The sea level rise will also harm farming areas.

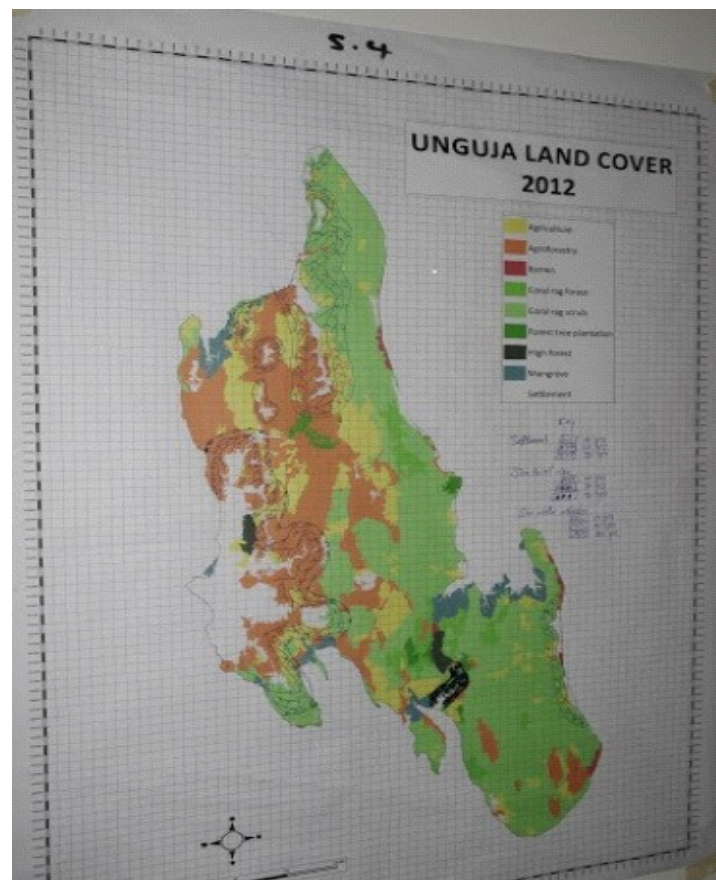Scenario 4: : **Eco-tourism** / *Utalii wa Mazingira*

Fig 17. Map of land use change in Unguja island of Zanzibar under a distinct scenario named 'Eco-tourism' / *Utalii wa Mazingira*
(CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Map Source: Viikki Tropical Resources Institute – VITRI, University of Helsinki.

6.6 End of day survey: linking scenarios and governance

Approximate time: 30 minutes, individual work

Objective

The goals of the survey are (1) to assess which scenario(s) the group deems most desirable to guide activities on the following day, and (2) to gain perspective on the participants' perceptions of their role in the governance of land use in the landscape in practice.

The following question were asked to participants to vote which scenario they deem most desirable – and the winner is also presented alongside the question:

Survey on future scenarios Take a moment to reflect on the scenarios developed today:	
Which of the scenarios that were described today would you consider to be most desirable? Which would make for the best future? Mark the name or number of the scenario.	Most frequent Response (i.e. Most desirable scenario): Environmental Conservation (*Uhifadhi wa mazingira*)

In addition, the following survey was administered to better understand the role of participants in land use governance in the real world. 38 workshop participants participated in the survey. Below, under each question both total number of responses corresponding to it and as a percentage of total number of respondents are included.

Please mark the degree to which you agree or disagree with the following statements about land use decision-making. On a scale of 1-5 (1= strongly disagree, 5 strongly agree), how do you feel about the following statements?

	1.(strongly disagree)	2.(disagree)	3.(neither agree nor disagree)	4.(agree)	5.(strongly agree)
• I have the information I need to participate out in decision-making about land use	3 (7.8 %)	1 (2.6 %)	2 (5.2%)	21 (56.7%)	11 (29.7%)
• If I need information I can get it	2 (5.2%)		7 (18.4%)	24 (63.1)	4 (10.5%)
• My organization or institution is well represented in land use decision making	4 (10.5%)	1 (2.6 %)	4 (10.5%)	18 (47.3%)	10 (26.8%)
• My organization or institution has influence in decision making about land use	1 (2.6 %)	5 (13.1%)	3 (7.8 %)	16 (42.1%)	12 (31.5%
• I should be more involved than I am in decision making about land use				7 (18.4%)	31 (81.5%)

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The findings of the survey indicate that quite high percentages of the participants have good access to information related to land use decisions; their organizations or institutions are represented in (and exert influence on) land use decisions; but very significant numbers feel that they should be involved more than they are now in decision making about land use.

7 DAY 2: CARBON MODELING AND GOVERNANCE MONITORING

Agenda	
TIME	**ACTIVITY**
08:30-09:00	Participant registration
09:00-09:30	Recap of day one, and day two agenda
09:30-11:00	**Modeling carbon emissions** Presentation of the VITRI methodology for modeling carbon emissions from distinct land use scenarios, and demonstration of the carbon implications of the scenarios developed in day one
11:00-11:15	Coffee break
11:15-13:00	Activities and steps towards desirable future scenarios
13:00-14:00	Lunch
14:00-15:00	**Multilevel Governance** Discussion and presentation of key aspects of multilevel governance
15:00-16:00	**Multilevel Governance: Monitoring and Indicators** Discussion of multilevel governance monitoring and elaboration of indicators
16:00-16:15	Break and "energizer"
16:15-16:45	Preliminary results and observations from multilevel governance study
16:45-17:30	Workshop Evaluation
17:15-17:30	Closing remarks and group photo

1 Review of previous day

Approximate time: 30 minutes, plenary

The lead facilitator summarized the previous day's activities, and went over the agenda for the day. The facilitator also reminded participants about the findings of a survey on desirable scenarios, and mentioned that this scenario will be used for most activities during the second day.

Photo by Martin Kijazi

Photo by Martin Kijazi

7.1 Carbon modeling: implications of future scenarios for carbon/ *Kukadiria kiwango cha hewa ukaa*

Approximate time: 1.5 hours, plenary

Objective

The goal of this activity was to explain the link between land use and carbon emissions and show the carbon implications of the scenarios developed during the previous day using a simple carbon calculator.

Activities:

1. Prof. Markku Kanninen presented the carbon modeling methodology (30 min)

This included explanation of the carbon calculator, and the pieces of information it requires:
a. Carbon density of different land use classes
b. Rate of change in carbon density of land as land use changes
c. Current land use
d. Future land use

The facilitators explained that the first three pieces of information were gathered through previous research, while the final piece – future land use scenarios – was ascertained the previous day through this workshop.
2. Presentation of preliminary results from previous day (30 min)
Results from the carbon calculator using the scenarios developed on the first day of the workshop were presented by: Prof. Markku Kanninen.
3. Round of questions (30 min)
Feedback and questions were taken from participants.
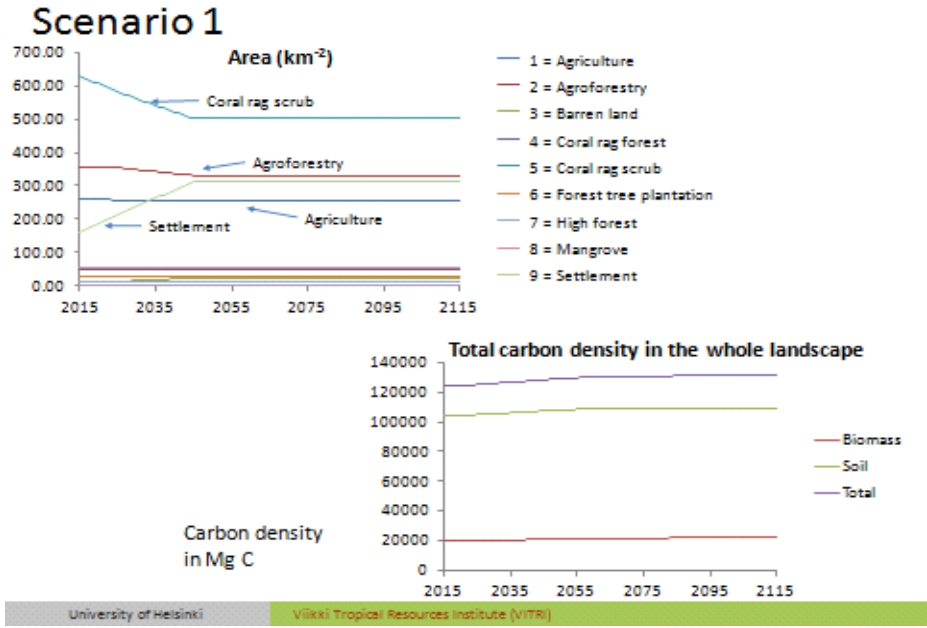

Photo by Ashwin Ravikumar

Fig 18. Carbon implications in Unguja island of Zanzibar under a distinct scenario named 'Investment' / *Uwekezaji*
(CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Presentation by: Prof. Markku Kanninen, Viikki Tropical Resources Institute – VITRI, University of Helsinki
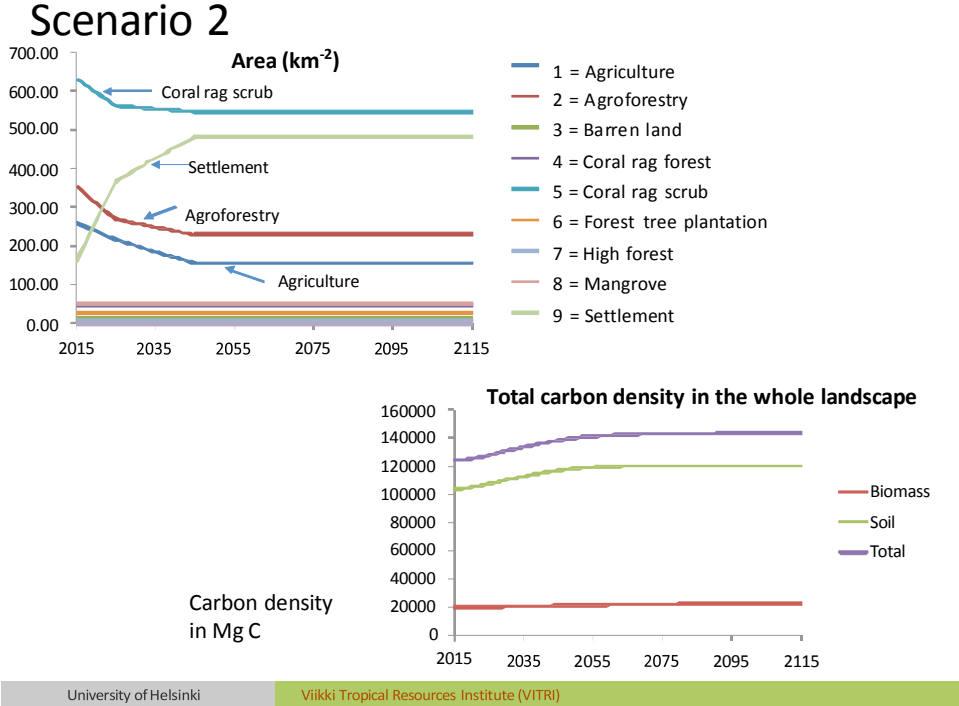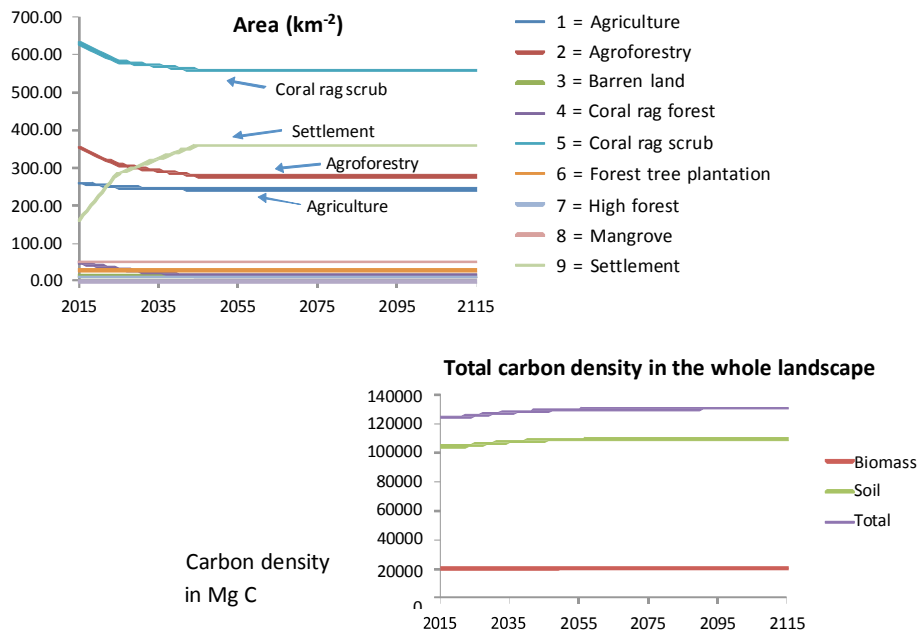

Fig 19. Carbon implications in Unguja island of Zanzibar under a distinct scenario named 'Discovery' / *Ugunduzi*
(CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Presentation by: Prof. Markku Kanninen, Viikki Tropical Resources Institute – VITRI, University of Helsinki

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Scenario 3

Area (km⁻²)

- 1 = Agriculture
- 2 = Agroforestry
- 3 = Barren land
- 4 = Coral rag forest
- 5 = Coral rag scrub
- 6 = Forest tree plantation
- 7 = High forest
- 8 = Mangrove
- 9 = Settlement

Total carbon density in the whole landscape

Carbon density in Mg C
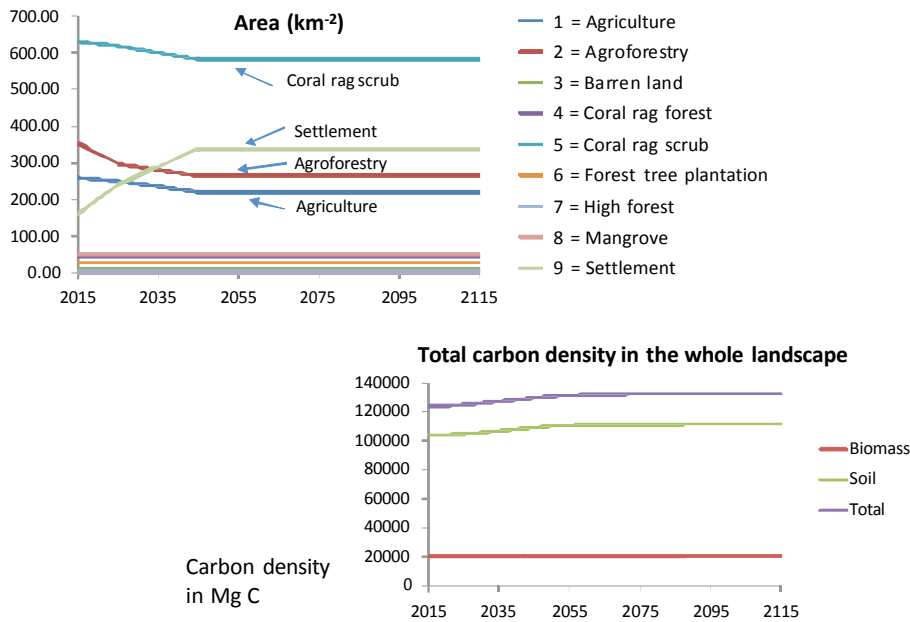
- Biomass
- Soil
- Total

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Fig 20. Carbon implications in Unguja island of Zanzibar under a distinct scenario named 'Environmental Conservation' / *Uhifadhi wa mazingira*
(CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Presentation by: Prof. Markku Kanninen, Viikki Tropical Resources Institute – VITRI, University of Helsinki

Scenario 4

Area (km⁻²)

- 1 = Agriculture
- 2 = Agroforestry
- 3 = Barren land
- 4 = Coral rag forest
- 5 = Coral rag scrub
- 6 = Forest tree plantation
- 7 = High forest
- 8 = Mangrove
- 9 = Settlement

Total carbon density in the whole landscape

Carbon density in Mg C

- Biomass
- Soil
- Total
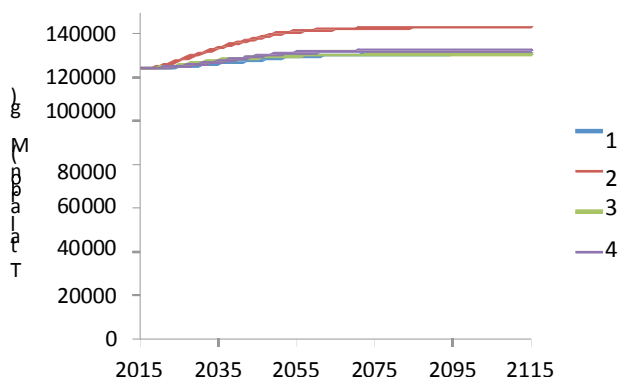
University of Helsinki   Viikki Tropical Resources Institute (VITRI)

Fig 21. Carbon implications in Unguja island of Zanzibar under a distinct scenario named 'Eco-tourism' / *Utalii wa mazingira*
(CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)

VITRI
Total carbon – comparison of 4 scenarios

University of Helsinki   Viikki Tropical Resources Institute (VITRI)

Fig 21. Comparison of carbon implications in Unguja island of Zanzibar under of the four distinct scenarios (CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Presentation by: Prof. Markku Kanninen, Viikki Tropical Resources Institute – VITRI, University of Helsinki

The overall comparison indicator little differences in carbon emission implications of alternative land use scenarios identified for Zanzibar. This is because irrespective of the land use scenario chosen areas of high carbon density (e.g. high forests) will be little affected because they are now already preserved/protected by laws as 'protected areas'. Also, given land scarcity there are no large areas available for new land-uses that will lead to dramatic increase in carbon storage e.g. large forest plantations.

7.2 Identifying strategies to reach a desirable future/*Shughuli na hatua kuelekea hali za baadae tunazohitaji zaidi*

Approximate time: 1 – 1.5 hours (individual and breakout groups)

Objective
The goal of this activity was to identify key activities and steps to reach a desirable future scenario.

Activities
After a period of individual reflection, participants were divided into random groups because many had agreed on the same one scenario in order to answer the following questions. To reach the desirable future scenario (described the previous day, but not strictly constrained by its parameters), (1) what needs to be done? what strategies, steps and activities must be undertaken? (2) how would these things be accomplished?, (3) who would be in charge of taking these steps?, (4) what are the barriers to taking these steps? and (5) how could these barriers be overcome?

1. Individual work (15 min)

Facilitators explained that while the previous day was about describing future scenarios the second day was about governance and what it might take to improve processes aimed at moving towards desirable scenarios. Participants were asked to reflect on what would need to be done to reach a desirable future. Who would have to do what? How would these things be done? What key strategies would need to be adopted? Participants wrote down some ideas – activities, steps, and strategies – on a piece of paper.

2. Group work (1 hour)

Because most participants selected just one scenario, then multiple groups were allowed to work with the same scenario. In addition, facilitators explained that the specific constraints of the scenario were not strict for second day's activities. Rather, they formed a basis for what the "desirable future" was, but other desirable aspects of a preferred future could also be incorporated in second day's group work. Each group had a facilitator who asked each group member to share their reflections. The facilitator or groups note taker noted the strategies, activities, and steps that participants shared in a table such as the one below (either on a poster paper sheet, or on colored paper to stick to poster paper later):
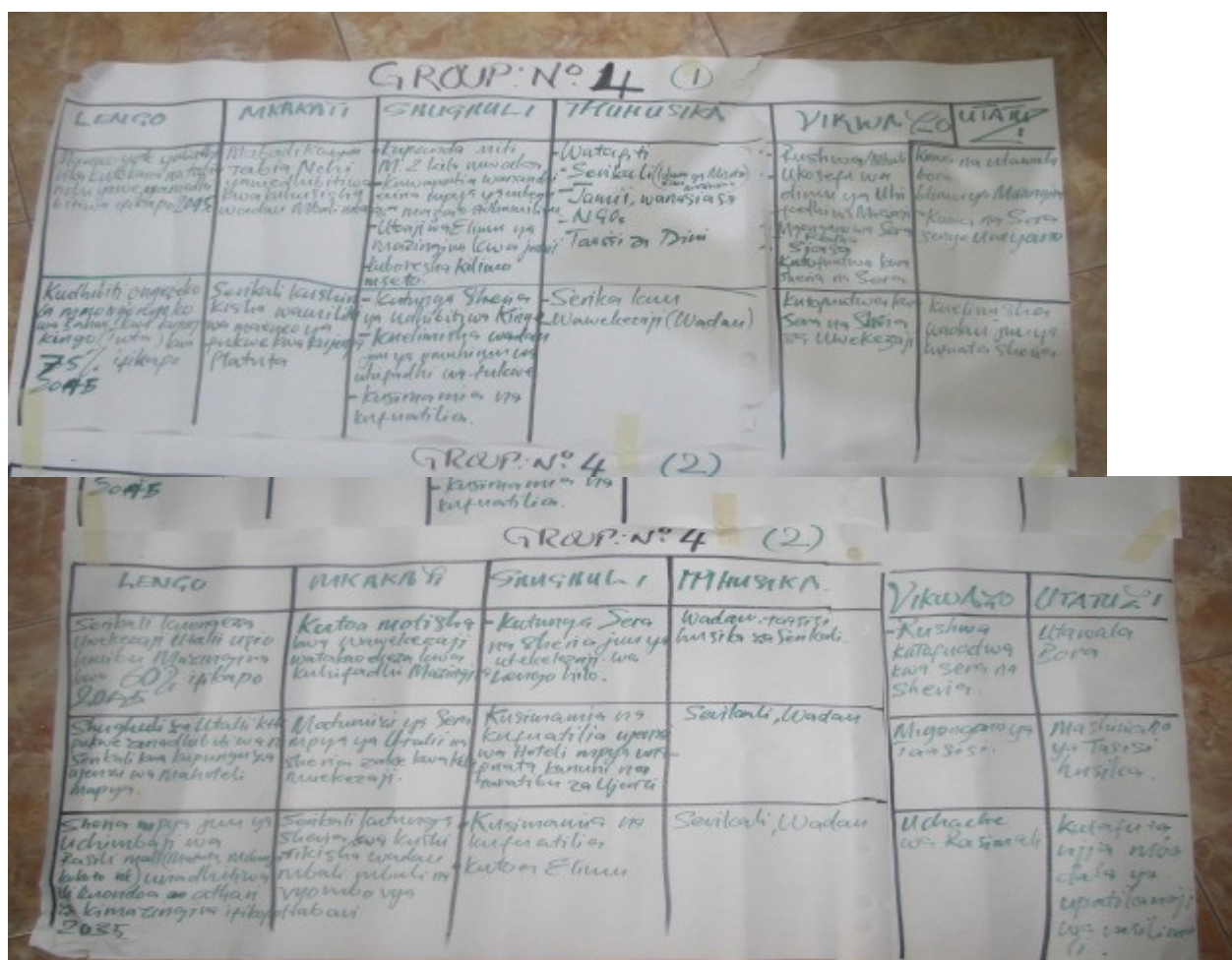

Fig 22. Example of group work describing what would need to be done to reach a desirable future
(CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Presentation by: Prof. Markku Kanninen, Viikki Tropical Resources Institute – VITRI, University of Helsinki

3. Presentation of Group Work (45 min)

Circulating around the room, each group presented its outputs to the other participants. After the last presentation, facilitators asked participants to identify and discuss similarities and differences between the groups' outputs. This discussion topic was intended to promote broader thinking in the next activity.

Fig 23. Presenting group work describing what would need to be done to reach a desirable future
(CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)

Table 3: Strategies, actors, and barriers to reach desirable future scenario

What needs to be done (strategy or activity)	How will this strategy be realized/ how will this activity be done?	Who will have to do these things?	Barriers	How to overcome barriers
Climate change adaptation and mitigation; via stakeholder participation	• Planting 2 million trees annually; • Providing farmers with new (adapted) seed varieties; • Public environmental education; • Improve agro-forestry systems	• Researchers • Government - departments of agriculture, forestry, & environment • Politicians • Community members • Religious institutions	• Corruption • Lack of environmental education • conflicting /contradicting policies • Lack of 'money' and other resources • politics • failure to implement/foll ow policies and laws	• Good governance • Environment al education • Policies that complement each other - via communicati on between different policy makers
Combating coastline erosion by building physical barriers	• Creating new law on coastline protection • Stakeholder education	• Central government • Investors	• Lack of enforcement & adherence to laws and	Enforcement & Education

to stop erosion by rising sea-water	on coastline protection • enforcement and monitoring	• Other stakeholders	policies to protect coastlines	
Providing incentives for environmentally friendly tourism	• Law and policies that promote environmental friendly tourism	• Government institutions • Other stakeholders (e.g. tourism investors)	• Corruption • Lack of law enforcement /lack of law abiding attitude	Good governance
Curbing excessive development of tourism along the coastline, including reduction in hotel constructions	• Stricter laws and policies (including their enforcement) on construction of hotels and other tourism facilities along the coastline	• Relevant government institutions • Investors • Other stakeholders	• Intuitional conflicts (e.g. between pro-development via tourism vs. pro-conservation)	• Cooperation and communication between different institutions
New law to regulate extraction of natural resources including oil, sand, and gravel in order to protect the environment	• The government should create this law by involving all stakeholders • Enforcement • Public/stakeholder education	• Government institutions • Stakeholders	• Natural resource scarcity	• Alternative strategies and sources of natural resources e.g. substitutes for currently overexploited natural resources
Minimizing the negative effects of climate change	• Implementation of laws and policies • Creation of special enforcement body • Environmental education to the public • Small-scale tree planting projects • Creating alternative energy sources • Alternative economic activities	• Relevant departments • Courts • Law enforcers • NGOs • Citizens/communities	• Corruption • Resource scarcity	• Transparency • Accountability • Good governance • Volunteerism • Capacity building
Economic development via small scale oil production	• Creation and enforcement of oil production laws and policies • Capacity building among the public to ensure their full participation • Participatory environmental impact assessment • High-tech science and	• Relevant institutions - environment, forestry, agriculture, lands, planning, etc • Citizens /communities	• Corruption • Politics • Scarcity of skilled personnel	• Good governance • Qualified advisors

	technology in oil production to minimize environmental impacts			
Controlling population growth	• Regulating immigration • Family planning education	• Immigration department • Health department	- do -	- do-
Regulating expansion of tourism buildings	• Limiting permits for construction of tourist hotels/buildings	• ZIPA • Tourism department	- do-	- do-
Improving nature tourism	• Promoting natural tourist attractions	• Tourism department • The public	- do -	- do -
Reducing environmental degradation by 2045	• Revision of environmental laws and policies • Public environmental education and sensitization • Implementation and enforcement of revised laws and policies Creating environmental law and policy revision commission • Stakeholder meetings, workshops, seminars, & advocacy campaigns • Dissemination of written advocacy information • Proving implementers with necessary resources	• Government institutions • Citizens organizations /associations • private sector	Bureaucracy during the implementation of policies	Provide incentives to implementers
Tree planting across Unguja island every year which will involve:	• Establishing public and private tree nurseries • Tree planting on open spaces, road sides, water sources, and farms • Tree planting campaigns • Distributing tree seeds and seed-lings, timely	• Government institutions • Communities • Community groups • Private organizations	Poor care for the planted trees	Develop and enforce proper care rules for planted trees
Reducing land use conflicts, including: invasion of prime	• Preparing land use plans • Revisions of land use laws and policies • Strengthening land use	• Government institutions including Department of Urban and Rural	Political patronage Corruption	Good governance

agricultural land, forests, and water sources by 2020	plans enforcement authorities • Stakeholder meetings • Revisions and implementations of urban and rural land use plans	Planning		
Strengthening good governance that promotes peace and security	• Involvement of citizens in the preparation of land use laws, policies and plans		bureaucracy in the implementation of agreed land use plans	Providing incentives and proper work resources to the implementers

7.3 Governance: Conceptual discussion

Approximate time: 45 minutes, individual, plenary, and group work

Objective
The purpose of this activity was to make sure that everyone is on the same page with respect to the definition of the term "governance." Although the term had been mentioned many times at this point in the workshop, different people might have had different ideas about what it meant. The facilitation team provided a definition after hearing from the participants about their ideas on what the term meant to them ensuring that the participants have had a shared understanding.

The lead facilitator led this activity. After having a participatory brainstorm on the definition of "governance," the facilitator presented an expert definition.
1. Individual reflection on governance (10 min)
The facilitator asked each participant to write down what they believe the term "governance" means, by prompting thus: "by now, we have all heard the term 'governance' before. But what does it mean? How do you understand the concept? Write down a brief definition of how you understand governance."
2. Brainstorm in plenary (10 min)

Participants were asked to share their reflections. A member of the facilitation team typed up participants' responses in real time. It was emphasized that only definitions that differ from what has already been shared should be mentioned. As responses were noted in the PowerPoint slide that was projected, key words that appeared in multiple definitions were highlighted.

3. Presentation on governance from facilitation team (10 min)

The lead facilitator presented a definition of governance that would be used in the workshop, recognizing commonalities and differences from participants' suggestions. One option used was to cite Larson and Petkova (2011), as provided in the facilitator guide defining governance as "who makes decisions and how decisions are made." This was complemented by contributions from all the facilitators. It was also explained that the concept of "good governance" is more normative, and there are a variety of opinions on what constitutes good governance. Some literature, and some actors in the development community, advance concepts like transparency and participatory decision making as pillars of good governance. This is not universally the case, however. The facilitation team presented a slide suggesting some possible "pillars" of good governance like transparency, representation, participation and accountability - and compared this with some keywords from participants' definitions of good governance. It was evident that some definitions of these concepts were touched in participants understanding of good governance, which indicated some 'shared value' on governance. At the same time, it was emphasized that different concepts of good governance exist, and indeed that many participants in the room may have different ideas about what constitutes good governance. The facilitators invited these suggestions, in addition to any pillars of good governance that were suggested. Participants shared what they considered to be other pillars of good governance including: the rule of law (utawala wa sheria); representation (uwakilishwaji); flexibility (kukubali mabadiliko); equity, equality and fairness (usawa); legitimacy (uhalali), and integrity (uadilifu).

Finally, the lead facilitator explained the concept of multilevel governance – a framework for studying governance that explicitly emphasizes the importance of actors operating at different levels and representing distinct sectors. Horizontal and vertical linkages are critical determinants of land use decisions from a multilevel governance framework, and this is why actors from multiple levels and sectors were explicitly invited to this workshop. Several participants pointed out that being in the presence of actors from different levels of governance and sectors enabled them to hear others point of view, and helped them to get their own points of view across to other actors.

The workshop also served as a forum for communication and knowledge sharing and transfer across different sectors and levels of governance/government. Participants, therefore, expressed their desire to have similar forum on a more regular basis.

Fig 24. Governance Plenary. (CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)
Photo by Ashwin Ravikumar

7.4 Monitoring and indicators of multilevel governance/ Ufuatiliaji wa viashiria vya utawala wa ngazi mbalimbali

Approximate time: 1.5 hours, plenary and breakout groups

Objective

The purpose of this activity was to identify indicators of governance that can be measured objectively. These indicators should be conducive to further steps with interested participants to develop a governance monitoring tool.

The following steps were involved in this activity:

1. Presentation by facilitation team on the concepts of "indicators" (*viashiria*) and "monitoring" (*ufuatiliaji*) (10 min)
The lead facilitator explained the concepts of "indicators"/*viashiria* and "monitoring"/*ufuatiliaji* in the context of governance (*utawala*). An indicator can be described as something that is measurable and verifiable that tells us about something more fundamental or harder to measure. An individual indicator is usually an incomplete measure of the underlying concept that it is designed to assess, but multiple indicators can jointly measure a concept more completely. For example, if we are interested in "participation of actors from multiple levels and sectors" as an underlying governance concept, then the number of municipal governments that attend each meeting in a particular land use decision-making forum might be one indicator. Another indicator might be the number of proposals from local governments that are taken up by a higher level of government. The degree of satisfaction of civil society actors with decision - making processes, as measured by surveys, or their satisfaction with their own level of participation may be indicators of their level of participation.

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Once such indicators have been defined, questions remain of *who* will monitor these indicators, *how*, and *when*. An NGO or government agency itself may monitor and measure these indicators, or some other body may be responsible for it. These are all part of the "monitoring" process, which requires clarity in these areas. The lead facilitator explained all of this to the group in plenary, while allowing comments from other facilitators and participants.

2. Development of governance indicators in groups (45 min)

In the same groups that worked on developing strategies, activities, and steps in the previous breakout groups, facilitators worked with groups to answer the following questions. Each group was instructed to describe these for one or two of the activities/strategies elaborated in the previous exercise:

-- What should be monitored? That is, what indicators can be measured to inform us whether we are engaged in good processes that lead towards realizing the strategy or activity that ultimately leads to the desired future scenario? What are the indicators for governance associated with the strategy or activity from the previous exercise?

-- Who should monitor each indicator? Each indicator may be of a different type, and require a different monitoring strategy. Some may require simply documenting aspects of participation in meetings, others may require using secondary data such as court documents to report on frequency of sanctioning, for example, and still others may require resources to administer surveys or conduct original research. Who is best equipped, and most appropriately suited, to actually do the monitoring?

-- When should these indicators be monitored? Is this a short-term, medium-term, or long-term monitoring need? How frequently does it need to be monitored? At the end of this group work session, each breakout group presented their outputs to the broader group.

Each group was advised to identify however many indicators they feel are necessary, but that it was best to contain it to two activities identified in the previous exercise. Possible topics suggested to encourage participants to think about indicators include participation and transparency in key forums, information flow among actors, evidence of

capacity building, coordination between levels and sectors, lack of participation of certain levels of government or certain divisions, or relationships between civil society and sub national governments. (Note: the section suffered from lack of adequate time to complete the exercise properly, as it was close to the end of the workshop. Groups had been excessively engaged in prior activities and spent more time on them. This observation should serve as a methodological and time keeping caution).

Fig 27. Examples of Groups' identified monitoring indicators of governance. (CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015)

Table 4: Monitoring indicators of multi-level governance

Strategy	What to monitor (indicator)	Who should monitor it	When Should it be monitored
Annual tree-planting on Unguja island	• Number of tree-seedlings planted in open areas, road sides, water sources, and farms • Areas (ha) planted with trees	• Departments of Forestry, Water, Agriculture • Municipal and Local government councils	Annually
Reducing the negative effects of climate change	• Increase in the number of erosion prevention barriers constructed along the shoreline • Increase in tree planted areas • Increase in the number of people using alternative/sustainable energy sources • Increase in the number of people engaged in alternative (sustainable) land use economic activities • The number of people prosecuted by law due to infringement of land use laws	• ZIPA, Department of Tourism ; Citizens • Department of Forestry; NGOs; Other stakeholders • Departments of Forestry, Energy; Agriculture and Environment	Every 10 years
Rehabilitation of areas affected by climate change	• Number of trees planted and survived • Frequency of occurrences of environmental degradations • Areas used for sustainable agroforestry systems • Increase in diversity of farm crops	• Department of Forestry • Department of Environment, NGOs, CBOs • Department of Agriculture • Researchers, Department of Agriculture	Every 3 months

3. Presentation and discussion of monitoring option (5 min.)

This was a good opportunity to discuss next steps. Developing indicators is a first step in a larger process of actually implementing and socializing governance monitoring. There are several options for next steps that were mentioned to participants. The most basic option is simply to share the outputs of the workshop including the indicators with the group, so that actors present can take the next steps themselves and use the workshop outputs as inputs into a governance monitoring tool or other governance monitoring activities that they wish to coordinate. This report presented here, which will be shared by willing participants, serves that purpose. A more intensive option is to solicit feedback on which participants are interested in monitoring and believe that their organization is either itself equipped to monitor governance, or may involve another organization. Presently such option has been left open. The most intensive option, if interest and resources are sufficient, is to hold another workshop focused explicitly on developing a governance monitoring tool with actors from relevant organizations. This option too, has been left open presently as it will depend on future interests and resources from both the organizers and participants.

7.5 Open discussion on Multi-level governance

Approximate time: 30 minutes to an hour, plenary

The original objective was for the facilitators who had conducted research prior to the workshop with results to share, to use this opportunity to do so, lending some context to the work done in the workshop and sharing relevant findings. However, by this time it had become obvious to the facilitators that some participants had also shown a great interest to share their experiences. Thus, the facilitators made this an open discussion session where both facilitators and participants shared their experiences on multi-level governance of land use decisions.

Fig 28. Open discussion on multi-level governance experiences. (CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015). Photo by Ashwin Ravikumar

Some of the key themes that emerged during the open discussion on multi-level governance include:

- The need for regular institutional cooperation between different law and policy making authorities, between different sectors of the government, and with different levels of governance to ensure that laws, policies and priorities of different sectors are not conflicting with each other;

- Regular communications between actors from different sectors and different levels of government in order to resolve conflicting interests and priorities;

- Transparency in land use decisions (e.g. in allocating permits to investors allowing them to develop land for tourism)

- Corruption and political patronage are some of the major barriers to enforcing current land use laws e.g. currently they allow encroachment of protected areas by residents, and also lead to laxity of adherence to environmental protection laws by investors

- Enforcement of existing land laws – currently laxity of enforcement, corruption, bureaucracy and political patronage hinder effective enforcement;

- Stronger involvement of citizens and other stakeholders in land use decisions;

- Citizens need to develop a culture of abiding to the laws and regulations regarding land use decisions – to address the problem of encroachment into protected areas

- Accountability, integrity, fairness, and legitimacy of individuals and institutions as well as the rule of law are key to sustainable land use decisions

7.6 End of workshop survey

Approximate time: 30 minutes

Objective

To collect feedback on the workshop in general and the dynamics within it in particular. This was intended to be used to improve the methodology and ensure that participants have a chance to share their thoughts and reactions with the facilitation team. The following survey represents Zanzibar workshop participants' responses. The findings are presented by the frequency of responses, followed by the percent of respondents that checked the answer (in brackets):

Please mark the degree to which you agree or disagree with the following statements about this workshop. On a scale of 1-5 (1= strongly disagree, 5 strongly agree), how do you feel about the following statements?

	1.(strongly disagree)	2.(disagree)	3.(neither agree nor disagree)	4.(agree)	5.(strongly agree)
a. This workshop involved all actors that should have been involved	2 (5.1%)	7 (17.9%)	6 (20.6%)	16 (41%)	7 (17.9%)
b. I had enough information to contribute to discussions	1 (2.5%)	6 (15.3%)	2 (5.1%)	21 (53.8%)	9 (23.07%)
c. I felt comfortable expressing my opinion				12 (30.7%)	24 (61.5%)
d. The discussions were always dominated by the same	12 (30.7%)	22 (56.4%)	2 (5.1%)	3 (7.6%)	

	people					
e.	I felt that my opinion was respected by the other participants		1 (2.5%)		15 (38.4%)	22 (56.4%)
f.	I felt more comfortable in the thematic groups (the first day) than in the mixed groups (the second day)		12 (30.7%)	1 (2.5%)	8 (20.5%)	19 (48.7%)

From the responses above, a significant number of participants believe/agree that this workshop involved all actors that should have been involved (but there is a fair number of participants who don't believe so). But very strong majority believe/agree that they had enough information to contribute to discussions; they felt comfortable expressing their opinion; They felt that their opinion was respected by the other participants; and they felt more comfortable in the thematic groups during the first day than in the mixed groups during the second day (though a fair number disagree on this latter aspect). Also a significant majority disagree that the discussions were always dominated by the same people. One can conclude that the workshop provided a friendly environment for all participants to contribute and be respected. An open question (below) was also asked to the participants. Some of the insightful responses are provided below:

> Would you like to share any other thoughts or feedback with us?

Some insightful responses from respondents include:
- The workshop was very informative, but needed more days to complete all the tasks comprehensively
- Need to have a follow-up strategy after the workshop to make it outcomes more impactful
- It was a good participatory exercise
- Needed to have greater representation from planners, law makers, municipal and rural councils as they are very influential decision makers
- The workshop provided a good for inter-sectoral communication and understanding forum
- More time should be given for discussions
- The workshop was educative/informative
- A workshop report in simple language (in Kiswahili) will be most beneficial to participants and other stakeholders

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9   Annex A: Participants

Workshop participants. (CIFOR-VITRI Workshop, Zanzibar, Tanzania, February 24-25, 2015).

JINA/NAME	TAASISI/ORGANISATION
Ali U. Basha	DFNR
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ZamaniOmar Abeid	Ministry of Agriculture
RamadhaniH.Ameir	Department of Environment
Tamrini A. Said	DFNR
Salum R.Mohamed	Forest Department
Haji Haji Ibrahim	SEDCA
Awesu S.Ramadhani	JECA
Fatma A.Khamis	CARE/HIMA
Khamis A. Khamis	A/MAZ/W./KATI
Salum A Juma	JUMIJAZA
Rahika H.Suleiman	DFNR
Kassim H. Muombwa	Conservation Cheju Shehia
Mkubwa A.Hamza	DFO North 'A'
Ngwali M.Haji	Facilitator/Forestry Department
Abubakar M.Haji	Forest

Khamis Seif Ali	COFMA-Paje
Rukia Kitula	IMS
Wahira Othman	SUZA
Mazi Khamis Mala	Kandwi
Ali M. Hilal	HIMA
Rehema Khamis Ali	OFFICE NA/WESTERN-D
Moh'd Haji Faki	MTANDAO
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Mashavu KH.KH	NORTH" B"DISTRICT
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Rafii Fathil Hasan	DADO MAGH
Muchi J Ameir	DOURP
Mohamed Habib	DOURP
Simai J .Simai	JECA
Shazil S.Suleiman	MISITU/W/MAGHRIB
Ali A.Mwinyi	Forest Depart.Zanzibar

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