



# The forest is clothing for the ancestors: A rapid cultural assessment tool for forest landscape restoration policy processes

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## ABSTRACT

Restoration of degraded lands and ecosystems is one of the largest challenges of our times. Many countries are making pledges to restore their lands and use the Restoration Opportunities and Assessment Methodology (ROAM) to prioritise restoration as part of their work on Forest Landscape Restoration (FLR). In FLR, the integration of cultural knowledge is acknowledged. However, despite some excellent examples, and calls for more integration, practical guidance on how to achieve this has been lacking. In order to address this gap in the context of ROAM, a rapid cultural assessment tool of 10 questions was developed for ROAM practitioners to bring cultural perspectives into participatory restoration planning and policy processes. In this paper, we (1) provide the 10 questions tool that was developed and tested during ROAM assessments in Malawi and Mozambique, and (2) discuss the impact of the tool in ROAM processes in each country and regionally, including through interviews with practitioners and with an expansion to coastal and marine ecosystems. The questions have since become part of ROAM training modules and been taken up in other ROAM processes. The application of the 10 questions highlighted different ways in which the questions could bring culture into FLR practice: sensitizing participants in policy processes to the cultural dimension of land and ecosystem restoration, opening space for cultural inputs and raising cultural voices seldom heard in technical policy dialogues, providing specific information on culture and cultural institutions to enhance the policy processes, and generating information of relevance to landscape level ‘on the ground’ restoration actions. The article ends with suggestions for improving the method and for conceiving of new cultures of restoration, bringing experiences from the past and present together.

## 1. Introduction

Restoration of degraded lands is one of the largest challenges of our times (Aronson and Alexander 2013). More than 60 countries have pledged to the Bonn Challenge, which aims to restore 350 million hectares by 2030<sup>2</sup>. One way to approach such restoration goals is to assess restoration opportunities, using a forest landscape restoration approach (FLR), which focuses on long-term processes which seek to increase ecological integrity and human well-being in a landscape (Mansourian and Parrotta 2018). In order to aid the identification and prioritization of landscapes suitable for restoration, the International

Union for Conservation of Nature and the World Resources Institute developed the “Restoration Opportunities and Assessment Methodology” (ROAM) (IUCN, and WRI, 2014) now used in more than 40 countries. ROAM addresses many aspects of restoration, from understanding the legal and policy frameworks, to identifying the best restoration interventions to achieve a country’s Bonn Challenge pledge. ROAM has been supported by the Restoration Diagnostic, which is both a component within ROAM and a stand-alone tool (Hanson et al. 2015). The Restoration Diagnostic is based on “key success factors” that may have contributed to forest landscape restoration progress in terms of hectares restored, benefits realized, and stakeholder support; it is in this

*Abbreviations:* FLR, Forest Landscape Restoration; ROAM, Restoration Opportunities Assessment Methodology; ICZM, Integrated Coastal Zone Management.

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Diagnostic that a cultural element best fits within ROAM. Recent additions to ROAM have included a focus on gender (IUCN 2017), biodiversity (Beatty et al. 2020), food security (Kumar et al. 2015), and governance (Campese et al. 2021). At the same time as these additions, a component on culture was developed on which this paper reports.

Cultural aspects of restoration have been typically absent in restoration policy and implementation (Szałkiewicz et al. 2020; Hernandez and Spencer 2020). However, recognition of diverse cultures and knowledge systems is a key component of natural resource governance (Springer 2016). In a recent survey in Australasia and in global award-winning projects, it was found that, although there were high levels of community involvement, including with Indigenous peoples, this did not equate to including cultural knowledge into restoration programs; the same study also found an under-representation of cultural values in the literature (Wehi and Lord 2017). In a review of 119 restoration projects in Colombia, only 22% had culturally-related goals (Murcia et al. 2016). The absence of the integration of cultural knowledge into restoration projects is due, in part, to the dominance of western approaches (Reyes-García et al. 2019; sensu Murphy 2011) which give preference to western knowledge (Hernandez and Vogt 2020). Many cultures experienced major disruptions to land tenure, resource use and management practices through colonization (Spencer et al. 2020) while disregarding how these traditions may have contributed to land management (Martinez 2018; Mawere 2014). Well-researched examples include the suppression of customary fire knowledge (e.g. Laris and Wardell 2006; Walters 2015), and the serious colonial misreading of the anthropogenic origins of old growth sacred forests in West Africa (Fairhead and Leach 1996), but extends to tree-planting (Walker 2004). The recognition of cultural practices, as now seen in international policy processes such as ecosystem services and Nature's Contributions to People, is an important step for recognising other worldviews (Díaz-Reviriego et al. 2019; Tengö et al. 2014). Working with Indigenous people and local communities (IPLCs) is also critical to meet Aichi Target 15 of the Convention on Biological Diversity (CBD) on restoring 15% of globally degraded ecosystems (Reyes-García et al. 2019) and to contribute to the United Nations Decade on Ecosystem Restoration (Abhilash 2021).

The first author of this paper developed this work while working for IUCN on implementing ROAM processes in eastern and southern Africa (Wild) and was reviewed and supported globally by the second author (Walters), thus the work emerges out of restoration policy development and implementation context rather than a research context.

Despite local knowledge being considered as a principle for guiding ecological restoration (McDonald et al. 2016), forest landscape restoration (FLR) (Mansourian et al. 2020), and protected area restoration (Keenleyside, 2012), adopting this principle appears to be problematic in practice. FLR typically suffers from a lack of integration across sectors and disciplines (Mansourian and Parrotta 2018). The integration of cultural knowledge is in agreement with the FLR principle of adapting restoration to local contexts (Campese et al. 2021). However, despite calls for more integration and some excellent examples, practical guidance on how to achieve this is lacking. The original ROAM did not include a cultural dimension, and the cultural dimension of the associated Restoration Diagnostic was dropped due to the absence of an appropriate verifiable methodology (DeWitt, pers comm, 2021).

In order to address this lack of a practical, cultural dimension in ROAM, IUCN's Eastern and Southern Africa Office developed a rapid cultural assessment tool of 10 questions for ROAM practitioners to use to bring cultural perspectives into restoration planning and policy. In this paper, we (1) provide the 10 cultural questions tool that was developed and tested during ROAM assessments in Malawi and Mozambique, and (2) discuss the impact of the 10 questions in ROAM processes in each country and regionally, including with interviews with practitioners. The article ends with suggestions for improving the method and for conceiving of new cultures of restoration.

## 2. Methods

### 2.1. Development of the 10 cultural questions tool

A 10 cultural questions tool, also referred hereafter as 'the 10 cultural questions', was developed with the purpose of including a rapid cultural dimension into the ROAM process through the Restoration Diagnostic. A short format of ten questions was chosen to make it accessible to practitioners and non-specialists, and to not be intimidating for participants in the policy process, who were the main interviewees and who are typically short of time. The ten cultural questions were drawn from the experience from other global policy processes that had the objective of including culture in nature conservation processes, especially from the work of the IUCN Specialist Group on the Cultural and Spiritual Values of Protected Areas (e.g. Wild and McLeod, 2008 and Verschuuren et al. 2010). Two of the questions had sub-parts that expanded the total number of 23 allowing the achievement of greater depth, as appropriate, although this level of detail is not always required. The tool was originally annotated as a training resource (Wild, 2016), and is found in an updated version in [Supplementary Material: Annex 1](#).

The tool helped identify some of the key themes related to culture and how culture might be better taken into account in restoration programs. These include cultural institutions, cultural sites and cultural links to species. The first four questions relate specifically to cultures found in the area of interest, with the following six questions, providing sources of more information, and asking how culture can be included in the FLR assessment. The approach was a mixture of open-ended and closed questions.

This tool allows users to deepen their own understanding of culture related to forest or once forested landscapes. The questions can also be used independently of FLR processes to gain a rapid insight into local cultures of restoration.

The 10 questions can be asked at the country, sub-national jurisdiction (e.g. a district), or of a specific landscape. Key informants with a knowledge of the culture are important interviewees especially as cultural dimensions are often hidden or even undisclosed knowledge within a landscape. Some knowledge is considered to be the domain of local communities or Indigenous Peoples and will require free prior informed consent for its collection, use, storage and dissemination (MacInnes et al. 2017).

During the development of the initial cultural questions, a reordering of questions became necessary. In the initial ordering, and first application of the questions, what is now (an adapted) question 6, was placed as question 1. The unanimous answer to this question 'Is there an existing culture of forest landscape restoration in the area?' was 'yes', while the visible evidence and analysis was that current social economic and cultural context were predominantly leading to landscape degradation in the area, thus presenting a contradiction. In the mind of the questionnaire designer, this was a broad question about current cultural practices but the respondents took this to mean; 'did the traditional culture of the areas include restoration positive elements'. On reflection, it was felt that a better starting query was an open question and consequently in the second application of the tool, the original second question was put in the first slot. This was; 'To what extent is culture an important factor that can influence FLR in the area?' This question could still be clarified by the following addition 'Is there an existing **current** culture of forest landscape restoration in the area, **and were there past cultural elements supporting restoration?**'. In the Malawi Traditional Authority (TA) interview ([Supplementary Material: Annex 2](#)), the preamble included an even broader question 'Are forests related to culture?'. This was a productive opening question and the answers indicating the depth of the cultural knowledge of the respondent.

The questions worked better when there was a knowledgeable interviewee and knowledgeable interviewer, who could use the questions flexibly as a checklist but follow-up in more depth based on

answers to particular questions. In facilitated group sessions where there were non-specialists from different geographical areas working on their own, the answers that were given were sometimes superficial, and sometimes copied across from one sheet to another (reflecting the tendency in these workshop settings to fill in the 'right answer').

Some of the questions (e.g. 7 and 9) could also be answered by a preliminary literature review or key informant interviews outside of the workshop setting. It should be noted that the questions are meant as a rapid tool for policy process and do not replace more time-intensive methods like ethnography that would provide more and higher-quality information. Where such work has been done, it should be consulted as part of a literature review and may provide information for many questions. Literature review alone, however, does not substitute for including the questions in policy processes as these also raise awareness and understanding of culture as an influencer of, and important part of restoration.

## 2.2. Application of the questions

The questionnaires were administered in three ways. 1) As a checklist for key informant interviews with knowledgeable individuals. The interviewer would use the questions to interview an individual during a ROAM meeting. The questions were not applied strictly in order but as a template – with new follow up questions being asked based on the responses. This method of application required the facilitator to have a good understanding of the questions to be able to ask more in-depth follow up questions. Two of the resulting 26 completed questionnaires were applied in this way, the first being a field-testing of the questions in Malawi, the second being during the provincial (10 District) ROAM process in Mozambique. Both were applied with traditional leaders with cultural knowledge (Supplementary Material, Annex 3). 2) Individually, or as a task in small groups of participants in FLR policy and restoration project processes, or as part of a ROAM process, where the ROAM methodology was already being applied (IUCN, and WRI, 2014, Hanson et al. 2015). 3) As a follow-on activity by locally-engaged project facilitators who administered some questionnaires or as a follow-up process to participatory ROAM workshops (e.g. Mozambique coastal ROAM).

Typically, a Power Point presentation was made during the introductory sessions on culture in the workshops as it relates to FLR, defining culture, explaining the 10 questions tool and giving examples. Specifically, in this presentation the word 'culture' was defined as the facilitation team realized that, in working with the cultural dimension of landscape restoration, different definitions of culture were at play. The team adopted three working definitions in the early part of the work. These related to i) specific cultures and ii) their beliefs, customs and arts, and iii) a way of thinking, behaving, or working that exists in a place or organization (Miriam-Webster 2021). These definitions were introduced into early presentations.

In the context of this work, these definitions can apply to the multiple, ethnic cultures of Malawi and Mozambique as well as the colonial and post-colonial cultures at the national, regional and local levels, as well as cultures within government departments, institutions and within the private sector or at the community level. In line with the Restoration Diagnostic (success and barrier factors analysis), where the cultural questions might best be located (Hanson et al. 2015), it was seen that any one of these cultural dimensions or practices may present as both opportunities as well as barriers to restoration. This is outlined in the Restoration Diagnostic as "*users identify which policies, incentives, and practices would address the missing key success factors and thereby overcome potential barriers to restoration. The diagnostic is thus an analytical process underpinning efforts to remove possible obstacles to forest landscape restoration*" (Hanson et al. 2015). For example, miombo woodland is a fire-dependent ecosystem adapted to regular burning. Swidden agriculture, including the use of fire, is a deeply ingrained cultural practice in both Malawi and Mozambique. The frequency of burning is now too

often for the effective regeneration of many miombo tree species. Thus, the current fire culture may be seen as a barrier to restoration; however, some modification of that culture could present an opportunity. The language of opportunity and barrier, which is also integral to the rapid restoration diagnostic, is used throughout the paper.

A two-page form was developed with spaces for filling-in the answers and translated into the respective languages (English or Portuguese). During a group work session of approximately two hours that typically covered a number of issues (e.g. culture, gender, community finance), a group of four or five individuals was convened to discuss and collectively answer the questions. A facilitator would be on hand to explain the questionnaire and answer any queries that might arise. It was observed in several cases that the groups would seek out responses from other knowledgeable participants who were working in non-cultural session groups. In the case of the third application as a follow-on activity, the respondents did not see the presentation and the interviewer may not have been deeply versed in cultural dimensions of restoration.

## 2.3. Respondent's profile

Most of the respondents were invited participants in FLR policy development processes (ROAM) that were either at the national level (Malawi national restoration assessment and national policy development) or sub-national (Mozambique ROAM for 10 districts, five each from Zambezia and Nampula Provinces), or a restoration project baseline survey (three coastal districts from three provinces in Mozambique). Typically, participants were government staff at the district and national level covering a wide range of specialties including forestry, education, finance etc. Most participants were nominated to participate in the process by their respective institutional leads based on a request by the organizing entity. In Malawi the respondents for the district questionnaires were the District Administrators or someone nominated by them. In all cases a specific request had been made, by the cultural questionnaire proponents, to the organizing entity, to include traditional or cultural leadership in the participant list so that individuals knowledgeable in culture would be present. Efforts were made to ensure that these individuals participated in the cultural group work, although, participation in these subject matter groups was by self-selection. The criteria for workshop participant selection were, therefore, government staff concerned with FLR with some culturally knowledgeable individuals invited. All were able to communicate in either English or Portuguese (one of the official languages of the country concerned).

Given the role of traditional leadership in culture a further explanatory note is warranted. In many African countries the pre-colonial community leadership has been formally integrated into governance systems often with cultural, functional and political roles. Malawi and Mozambique are not exceptions to this. In Malawi, the Traditional Authorities are part of the local governance structure and are ex-officio (non-voting) members of district councils. The structure of the Traditional Authorities in Malawi was described as follows in one interview (Supplementary Material: Annex 2): the Traditional Authority (TA), responsible for 8–9000 people in an area, is selected through a hereditary process from a particular ethnic group, but still has overall responsibility for different ethnicities in the area. Under the TA are Sub-Traditional Authorities, who are responsible for several Group Village Headmen (GVH). The GVH oversee several villages each with a Village Headman containing 2–4 clans each of 2–3 families.

In the Mozambique the tradition leadership is the *régulos*, and a key local institution with regard to landscapes (Convery 2006). Each *régulo* has a clear geographical area of responsibility (*régulado*). The structure of traditional authority is legitimized and recognized by state representatives. Within the *régulado* there are the villages and *bairros* (neighbourhoods). This is a hereditary position based on clan succession and an integral part of Mozambique social, cultural and political fabric. The position of the *régulos* is recognised by the Government of Mozambique especially since Law 15/2000 which allows for integration

of the traditional authority in state governance through a legitimating process. Thus, the traditional authorities represent the state at the community level (IUCN 2017). The government provides them with a monthly stipend and a uniform.

During field work in the three districts, one *régulo* was interviewed and a follow-up questionnaire was left with the district teams to be administered with all *régulos* in the project area. Four more were interviewed and the 10 questions tool was applied. Having observed sacred forest areas during the fieldwork, a specific supplementary recording table for the *régulos* and sacred natural sites was devised that allowed for elaboration of question 2b.

#### 2.4. Methods for synthesis, analysis, and evaluation

In each policy process, the answers were entered into an excel spreadsheet (response sheet) with the questions arranged vertically and the districts horizontally. Each response was copied directly from the answer sheet into the response sheet. At the time of policy formulation, no specific method of analysis was chosen but key elements emerging from the questions were extracted and entered as input into the policy processes. These were validated during district and national level validation processes both as workshop presentations (Power Point) and in the draft reports. Feedback on the reports was incorporated and included in the final reports.

#### 2.5. Locations where the 10 questions were applied

The questionnaires were administered in policy and project development contexts where ROAM was being applied including Malawi's National Forest Landscape Assessment (referred to as Malawi national ROAM); Mozambique's sub-national assessment in Zambezia and Nampula provinces (referred to as Mozambique provincial ROAM); and a coastal zone restoration project baseline in Mozambique (referred to as Mozambique coastal ROAM). In this latter project, ecosystems being addressed by the project included coral reefs and seagrass beds as well as coastal forests and mangroves. This presents a situation where ROAM has been used in contexts broader than FLR and so Integrated Coastal Zone Management (ICZM) replaced FLR on the question sheets.

In all, 26 questionnaires were administered and completed, answering on behalf of 24 districts across the two countries, thus representing wide geographical coverage (Table 1).

To understand how the 10 cultural questions were viewed and used by practitioners involved in ROAM processes in eastern and southern Africa, four interviews were conducted in January 2020, in the context of a wider study on governance and ROAM (Campese et al. 2021). This was part of a separate evaluation exercise. Part of each interview focused on the governance principle of recognising cultural and knowledge systems. We extracted the interview data from this study to complement our analysis here. Those interviewed included a senior government official responsible for the ROAM process in Malawi, and three regional NGO staff involved in ROAM implementation in Malawi, Mozambique and regionally.

### 3. Results

The first section presents the results from the three ROAM processes, including how the results from the cultural questions were brought into the recommendations of the ROAM reports. We then summarise the uptake of the method in the region and by IUCN, specifically how the cultural questions were viewed and further used by other organisations and practitioners after its development.

#### 3.1. Overall results

**Malawi national ROAM:** For the 16 Malawi Districts, the overall response to the 10 and extended 23 total questions ranged between 26

**Table 1**

Locations where ROAM processes were completed and details of questionnaires.

Country	ROAM Process	Districts Where 10 questions applied	Reference
Malawi national assessment	17 questionnaires applied in 16 districts, November 2016	Mulange, Balaka, Chipita, Mchinji, Kasungu, Mwonza, Ntchisi, Neno, Zomba, Nsanje, Drowa, Karonga, Likema, Nkhotakota, Chiradzulu, Thyoio	(Ministry of Natural Resources, Energy and Mining - Malawi 2017)
Mozambique provincial assessment in Zambezia and Nampula provinces	5 questionnaires were administered in 4 terrestrial districts in October 2017	Gurue (2x), Mocuba, Gile, Rapale	(MITADER 2018)
Mozambique Climate Resilience for Climate Change project (Inhassoro district, Inhambane province, Dondo in Sofala province, and Memba in Nampula province).	4 questionnaires completed in 3 coastal districts in November 2018	Inhassoro, Dondo, Mwemba	(Ministry of Sea, Inland Waters and Fisheries (MIMAIP) -Mozambique 2019)

and 74%, with an average of 41% questions answered. Questions 1, 2, 4, 5b, 7 and 10 had over 80% response rate by respondents. The lower level of responses to other questions perhaps indicates a lack of engagement with the subject matter amongst some respondents.

**Mozambique provincial ROAM:** In the Mozambique provincial ROAM assessment, the questions were fully answered with 17 of the total 23 questions receiving 80–100% answers.

**Mozambique Coastal ROAM:** In the Mozambique coastal ROAM covering three widely spread coastal districts, all 4 questionnaires were responded by *régulos* themselves and were well answered.

#### 3.2. Results by question

The results per question are presented briefly in Table 2 and the full responses for each ROAM process are presented under each question in [Supplementary Material: Annex 3](#). The question order was different in the first application and was then changed based on that experience. The following 10 questions represent the revised order (see question 6 in [Supplementary Material: Annex 3](#) for explanation).

#### 3.3. Resulting uptake of the recommendations

The overall uptake of the cultural questions are presented in Table 4, showing how the results of the cultural questions were brought into the ROAM report itself. The key elements incorporated into recommendations were the engagement of traditional authorities, using sacred natural sites, mostly sacred groves and forests, as starting points for restoration activities. Consideration was given to culture and gender aspects.

### 4. Regional and national uptake of the 10 questions

In a separate process fully reported in Campese et. al 2021, four

**Table 2**  
Brief summary results by question.

Question	Summarised comments
1. To what extent is culture an important factor that can influence FLR (or in the coastal context ICZM) in the area?	Overall culture was recognised as having high or medium importance to restoration and only a few respondents felt it had a low influence.
2. What are the main themes or domains where cultural society can influence the restoration of forest and coastal landscapes (FLR & ICZM)?	a. Land, governance of private and community land, land rights, titles and the role of traditional leadership. Two quotes (Malawi) illustrate these points, "Culture greatly influences FLR because all places are of cultural value and are never left bare for instance graveyards, initiation places, sacred places", and "It can highly influence FLR through the linking of cultural activities in the ecosystem. (graveyards some traditional dances e.g. Gule Wankulu for community mobilisation)". In several cases specific cultural elements were mentioned but not described by the respondents and the facilitation team did not have time to research further into these specific practices. It would be ideal if these were understood at more depth during the follow on restoration activities.
a. Related to land, land tenure, governance and rights:	
b. Related to sacred sites, related to specific landscapes, landscape features, and / or specific locations (forest or non-forest)	b. Sacred natural sites were emphasized in all surveys and in the Mozambique coastal ROAM 11 sites were specifically identified (Table 3). The majority were considered degraded and would be good targets for restoration efforts.
c. Related with specific species of plants and or animals;	c. The sub-questions on foods, taboos and medicines often resulted in specific species information although often at a level that was not immediately useable without further research. The questions on arts and crafts, institutions related to cultural leadership and spirituality and religion were generally little answered or repetitive of answers given in the previous questions.
i food	
ii taboos and beliefs	
iii medicines	
iv arts and crafts	
v spirituality and religion	
3. Are there cultures that could be described as forest cultures? I.e. those societies whose culture automatically protects or restores forests. What is their status in the country?	Over half of respondents said there were cultures with elements that can be described as forest-related. It was mentioned that the youth are not following these traditions.
4. In your opinion, is culture an opportunity or a barrier to FLR in your area?	Culture was recognised both as a barrier and an opportunity with the latter receiving higher scores. Comments regarding barriers included "It [culture] is responsible for most land degradation in the district", and "most of the people do not have the culture of preserving forest and is compounded by poverty levels". Quotes regarding opportunities were "It is so because every member of the society receives the cultural values without questions and as such there will be no objection to FLR" and, "Culture is directly related to natural resources hence can influence FLR in communities that are properly oriented on how culture can play a role", also "the chiefs by laws are followed and feared by all".
a) If it's a barrier how?	
b) If it is an opportunity how?	
5. How does culture influence other social elements such as gender, youth, ethnicity, politics, arts, and economics with regard to restoration?	In general, this question was only answered superficially possibly due to the breadth of content. Two specific points noted here were that a) culture was mentioned as a driving force for other social elements and that while each group has its own culture that government must balance these, and b)

**Table 2 (continued)**

Question	Summarised comments
6. Does the overarching group culture of the area predominantly lead to restoration or degradation?	noted that rapid cultural change is occurring often towards degradation. It was noted that cultural influences lead both to restoration and degradation and that in some cases there has been a cultural shift towards restoration due to local ecosystem management structures.
7. Are there centers of excellence or specific cultural events that can be consulted for a deeper understanding of the cultural dimensions of forests, landscapes and FLR?	In general few centres of excellence were identified, with respondents citing mostly cultural institutions and leadership.
8. Are there cultural or religious institutions that could make a subnational commitment to the Bonn Challenge?	The answers to this question were mixed between yes, no and not answered with most of the positive responses identifying mosques and churches that could make commitments.
9. Is any relevant culture or cultural services recognised in existing national laws, conservation or science programmes? E.g. National cultural laws or policy, World Heritage Convention, Living Cultural Heritage Convention, National Biodiversity Strategy and Action Plan.	This question was little answered, and it was felt in the future that this information would be best achieved by a literature review/ internet search or via key informant interviews, rather than community-level questioning. It could be dropped in future community-level applications.
10. In what way should the FLR programme that is currently being designed take into account culture, and can a restoration culture be developed? If yes How?	This question had two parts. Responses to part 1 included involving grassroots communities, traditional leaders and all forest user groups, and that all cultural aspects that have a bearing to forest management should be promoted. It was also noted that restoration processes were at an early stage, and so difficult to outline at this point. Overall, the response to part 2 was positive. Specifically, in Mozambique coastal ROAM It was stated; "Yes! Each specific district or village has its own culture. It is important to use culture to promote FLR taking into account the good aspect that each specific culture offers in promoting FLR".

ROAM practitioners were interviewed about the Malawi ROAM process. The four practitioners who were interviewed about their implementation of the 10 cultural questions generally revealed a strong support for the tool, and a recommendation that it be promoted more widely. According to one senior forestry official from Malawi, they noted that, "In the African setting, that [a cultural approach] is the way to go" but further noted that it was, "not one size fits all, but should be available to those who want to use it".

Stakeholders in both the Malawi and Mozambique assessments reported that using the 10 cultural questions enabled integration of cultural knowledge into ROAM. One interviewee noted that, "When you go to a community in Malawi, you find out that the customary laws are interesting for restoration." While another noted that, "Culturally in Malawi, we are very different. Some have graveyards, some cultural practices require cutting new forests". Another interviewee noted that when cultures have both elements of degradation and restoration, it is like "pulling in different directions". These interviewees show that the questions were able to capture a diversity of cultural knowledge from an area, but that they may also capture cultural information that may result in degradation. The questions also point to seeing culture as both an opportunity and a barrier to restoration.

The 10 questions were also seen as a way to build relationships with local communities while also raising the profile of the cultural

**Table 3**  
List of 11 sacred natural sites in the Mozambique coastal project area.

SN	Name of site	Ecosystem type	Size (ha)	Ecological conditions	Site use and general social conditions
Momba District – <i>régulos</i> Jaime Alicora					
1.	Namarupi	Forest	50+	Degraded	Ask spirits for good individual and community outcomes; e.g. rainfall, good fishing and agricultural production and people’s prayers are sometimes answered
2.	Nicoma	Grassland	30	Degraded	
3.	Munindira	Coral reef	10+	Preserved	
4.	Namarupi	Dune	20+	Degraded	
Dondo-Chonamacondo District – <i>régulos</i> Maguacua					
4.	Theca-Theca	Forests	1	not recorded	Cemetery
5.	Farol	Dunes	1	not recorded	Preservation of tradition
Inhassoro District – <i>régulos</i> Chibo					
6.	Gatsala	Not answered	2	Degraded	Cultural institutions are strong
7.	Afonso	Not answered	1	Degraded	Cultural institutions are strong
8.	Chesi	Not answered	1	Degraded	Cultural institutions are strong
Inhassoro sede District – <i>régulos</i> Fequete					
	Madiane	Not answered	2	Degraded	Cultural institutions are strong
10.	Ana	Not answered	1	Degraded	Cultural institutions are strong
11.	Passagem	Not answered	1	Degraded	Cultural institutions are strong

dimension of restoration with ROAM teams. According to one interviewee, “We capture local knowledge; we use the famous ‘10 cultural questions in ROAM tool’... in our project in the Eastern Province, we sensitively dealt with sacred groves issues so Indigenous knowledge was important”. Another interviewee noted that although the questions always brought out new cultural information relevant to ROAM, at a minimum, the 10 questions provide a way to engage with Traditional Authorities. This suggests that the questions open up a space for dialogue about cultures of restoration including with customary leaders.

However, one interviewee who had worked with the 10 questions in several ROAM processes suggested that although the 10 questions were a very good initiative, they wondered if the format could be shortened, and if the questions would be better conducted by experts. This shows that the questions and their implementation may need to be adapted.

**5. Analysis**

*5.1. Effectiveness of the questions and broader learning*

In general, the first five questions provided richer and more specific information. Questions six to ten produced less tangible data, more opinion and were generally less well-answered. The quality of the responses also depended, unsurprisingly, on the cultural knowledge of the respondent. In the context of the policy processes, it was unpredictable as to who would answer the questions. Some respondents who were formally representing a particular district were not necessarily from that district, in some cases they sought help from others in answering the questions. Some were answered quite shallowly, while others were more in-depth and yielded more relevant information. It is of course preferable to have multiple applications of the questions in an area the size of a district, but the process was deemed sufficient at the level required of a national policy process. A recommendation (and one raised by a respondent) is to apply the questions at other levels and deepen the

**Table 4**  
Summary table of cultural recommendations from three ROAM processes

Recommendation themes	Malawi National ROAM & Strategy	Mozambique 10 District ROAM	Mozambique Coastal Zone ROAM
<b>Traditional authorities and institutions</b>	<i>Closely involve Traditional Authorities in planning district restoration interventions and implementation.</i>	<i>Primarily account for culture through the engagement of traditional leadership (régulos)... Involve traditional and cultural leadership as well as traditional healers into the FLR process more strongly.</i>	<i>Recommendation: The project needs to work proactivity with the régulos of the project area and support them to become champions for ecological restoration. This effort should start first with the sacred natural sites under their custodianship several of which have become degraded.</i>
<b>Cultural and sacred sites</b>	<i>There was no specific recommendation in the ROAM but the extract from the TA interview annexed in the ROAM report on Graveyards was as follows: Graveyard forests occur in Ngoni culture. Graveyards are different sizes, are respected and are not diminishing in size. They can expand and people do come around a graveyard to plant trees.</i>	<i>Better understanding of local laws that prevent removal of forests. Use the sacred forests and cemeteries as starting points on discussing, planning and explaining restoration</i>	<i>It is recommended that the project works with the restoration of sacred natural sites as an entry point and a means of engaging the régulos as a champion of restoration of the wider areas under their stewardship. (11 sacred natural sites were identified by the survey, Table 3).</i>
<b>Supportive cultural aspects</b>	<i>Build on supportive cultural aspects including Gulewamkulu—to spur greater community mobilization</i>	<i>Not mentioned</i>	<i>Not mentioned</i>
<b>Traditional knowledge (of women)</b>	<i>Not mentioned</i>	<i>Consider the traditional knowledge of local women when adopting measures to restore degraded landscapes, in order to adopt better informed and effective actions that guarantee women’s access to the natural resources key for the food security of households.</i>	<i>Recommendation: Support the institution of the régulos to support gender equity in the cultural management and restoration of traditional land and sea domains.</i>
<b>Address cultural barriers</b>	<i>...production, transport, and use of charcoal.</i>	<i>Understanding the cultural dimension of fire management...to</i>	

(continued on next page)

Table 4 (continued)

Recommendation themes	Malawi National ROAM & Strategy	Mozambique 10 District ROAM	Mozambique Coastal Zone ROAM
<b>Include culture in National FLR and other strategies</b>	<i>The National Strategy for FLR for Malawi focused primarily on Traditional Authorities as the key point for culture integration in multiple sections summarised and extracted as follows: Formalise responsibility &amp; capacitate and empower TAs to form management committees/user groups, engage as champions over planning and implementation, and working closely with the Department of Forestry and local management committees in the expansion of and in strengthening bylaws for protection and management of community forests and woodlots</i>	<i>promote restoration in fire-tolerant... ecosystems</i> <i>Include culture when designing the FLR strategy for Mozambique</i>	The <i>régulos</i> have been fully involved in the project implementation as part of local implementation teams, and have been welcomed the project as a practical enabler of the government '1 leader 1 forest' policy. The project is focusing initially on mangrove and marine restoration and the <i>régulos</i> are involved in initial mangrove planting and marine no-take zone site selection (Menomussanga pers comm.).
<b>Capacity building, and behaviour change</b>	<i>Capacity building was included in the strategy (see above section)</i>	<i>Capacity building, training, and encouraging behaviour change is needed to include a cultural dimension</i>	<i>Not mentioned</i>

understanding of local culture and local knowledge. More in depth cultural understanding and research at the district and landscape level is recommended.

The application of the 10 cultural questions highlighted specific and different ways in which the questions could bring culture into FLR practice. The themes identified in the results (Table 2) became potential entry points future restoration programmes that engage in culturally sensitive ways. Thus cultural institutions, cultural sites and culturally important species are important elements for local engagement in actual restoration. The consideration of cultural barriers around elements such as fire management and predominant agricultural practices also emerged as important.

### 5.2. Opened space for cultural inputs and cultural voices seldom heard in technical policy discussions

Voices that articulate cultural viewpoints are rarely heard in policy and conservation processes (Duncan et al. 2018), especially those that are framed in technical and financial language. Culture is often considered only in performance or artistic domains. Yet in Eastern and Southern Africa there are constitutionally recognised traditional leaders

that are responsible for culture and many people identify with specific cultures. The 10 cultural questions drew specific attention to cultural knowledge and cultural authorities in places where ROAM was being conducted, and so opened up a space for discussion.

Including the 10 cultural questions tool into policy processes raised awareness of the importance of culture, in its broadest sense, to FLR. It allowed participants to reflect on culture as a determinant of development, which is rarely undertaken and is not always straightforward. Culture is increasingly recognized as having and important influence on development in general and sustainability in particular (Soini and Dessein 2016).

### 5.3. Provided information exchange on culture and cultural institutions to enhance policy processes

A series of culture-related recommendations were made within the policy process and included in the final two ROAM assessment reports, and the restoration project baseline. These have already been presented in Table 4. The 10 cultural questions tool allowed the cultural expertise participating in the ROAM processes to provide specific information of a cultural-ecological nature. This included cultural influencers over behaviour change towards ecosystem restoration, as well as entry points regarding specific sacred and cultural sites and culturally important species.

The questions also allowed for exchanges of views, for example on gender. Like many traditional societies, the Malawi traditional authorities and the Mozambique *régulos* have been male-dominated institutions that have customarily given weight to the opinion of male elders. They have been neither gender nor youth responsive although there are usually some mechanisms where the voices of women are heard (for example, the role of the Queen Mothers in these systems is particularly important). To retain relevance in the modern and increasingly equitable gender and youth restoration movements, these institutions need to, and in-fact some are, becoming more gender and youth responsive. The TA interviewed here, for example, reported he had appointed several women as village heads (Supplementary Material: Annex 2). However, the existing gender roles are deeply entrenched, and it is observed that many cultural leaders only accommodate women's roles when there is strong female leadership in place that claim that right (Isabel Ramos pers. comm.).

Within ROAM we recommend that the 10 Cultural Questions tool be embedded within the success factor analysis or Restoration Diagnostic (Hanson et al. 2015). This policy analysis approach developed by WRI and IUCN does not currently include a cultural dimension (although earlier versions did). It is recommended that an additional social question is added to the traffic light tool under the 'enable' sections as follows: 'cultural factors support and do not act as a barrier to restoration'. The 10 cultural questions tool then provides the more detailed analysis to allow restoration teams to allocate appropriate status to the diagnostic. The success factor analysis also acts as a baseline and monitoring tool to follow progress and recheck the assumptions.

The cultural questions were integrated into ROAM training materials and the Yale School of the Environment Environmental Leadership and Training Initiative online course developed in collaboration with IUCN over the period of 2016/2017. Since the development of these 10 cultural questions, their usage has been promoted regionally, and used further in other ROAM processes including in Madagascar (2020) and Ethiopia (2021). In both cases, the 10 questions tool was used at the landscape level and were fed back into the ROAM recommendations. This integration sends a strong signal of ROAM developers in recognising and promoting culturally informed restoration.

### 5.4. Generated relevant information to landscape level 'on the ground' restoration actions

The restoration assessments, targets and strategies are a necessary

precursor to actual ecosystem restoration at the landscape level, or 'actual restoration on the ground', as it is sometimes termed. Without follow-on actions resulting in the actual restoration of forest and other ecosystems, then the process will be meaningless. Cultural information at the national and sub-regional assessment level are important inputs and processes. These include the cultural institutions that can influence behaviour change amongst their constituencies, specific cultural knowledge of landscapes, ecosystems and species of relevance to and socio-cultural approaches to ecosystem restoration. For example, cultural and religious institutions could make their own sub-national commitments to the Bonn Challenge and AFR100. It is important therefore, to maintain a thread of conversations, knowledge and engagement with cultural actors as the process of ecosystem restoration unfolds, and to support these institutions in their restoration work.

In the context of sacred forests, culture is dynamic as both TAs and *régulos* were reported to be able to designate a degraded area as no-go area or as a sacred area to help restore an area and that he or she can support a community restoration plan. The dynamic nature of African sacred groves has been expanded on by Sheridan and Nyamweru (2008).

## 6. Discussion

Restoration can be a significant way to bring nature and culture (back) together, being at the "confluence of people and place" (Chang et al. 2019). Biocultural approaches integrate multiple knowledge systems and constitute "conservation actions made in the service of sustaining the biophysical and sociocultural components of dynamic, interacting, and interdependent social-ecological systems" (Gavin et al. 2015). However, this is often challenging. In considering the way that culture had been brought into some ROAM processes through the 10 questions, Campese et al (2021) point to a number of issues and considerations for integrating diverse cultural aspects and traditional knowledge in ROAM assessments in meaningful and respectful ways. These include: respecting diverse knowledge and cultural systems even if they do not align with project managers visions and priorities for restoration; ensuring that knowledge is respected, and co-developed and not just extracted; recognising diverse knowledge holders in a restoration landscape; ensuring that those with cultural knowledge are meaningfully engaged in the restoration process to effectively share their knowledge; and understand the importance of recognising knowledge holders. This assessment is in agreement with the results we present in this paper.

Cultural elements can be seen both as critical success factors for restoration, but also as potential barriers to restoration. In terms of critical success factors, in many places, Indigenous peoples and local communities already contribute to restoration through their cultural practices, in restoring land degraded by others and by joining restoration movements (Reyes-García et al. 2019). Treating landscapes as social-ecological systems for FLR (Noulèkoun et al. 2021) brings nature and culture together, respecting the knowledge and cultural institutions that may have created the landscapes under restoration. People's views on restoration are based on places and place-based knowledge (Baker et al. 2014) and affects the willingness of people to restore (Walker 2004). When restoration is informed by cultural contexts, conducted in collaboration and led by local people and institutions, restoration can be successful in social, economic, and ecological terms. In the western US, partnerships across tribal, state and non-governmental organisations in the Western Klamath Restoration Partnership have integrated cultural values associated with the landscape and its use (Lake et al., 2018). In Shinyanga, Tanzania, the adoption of cultural restoration techniques radically changed the project from failure to success, recognising local knowledge and species (Barrow, 2014; Walters et al., 2021). When cultural institutions and ways of restoring are integrated into FLR or ecological restoration more broadly, they can become more successful, as in the case of engaging with the Mi'kmaq on restoring forests through moose removal in Canada, or with the Kanak in New Caledonia

(Mansourian et al. 2019).

Cultural approaches to restoration can result in increased food security, as was the case in Guatemala, integrating the practice of *kuxurum* (meaning 'my humid land' in Ch'orti') to restore cropland and increase soil moisture retention with intercropping of agricultural fields with *Gliricidia sepium* (Maradiaga 2015). In the Sahel, millions of farmers restore lands using cultural variants of farmer assisted natural regeneration (West et al. 2017; Sendzimir et al. 2011).

Cultural approaches to restoration can renew contact of people with their landscapes. Working with Indigenous concepts, such as *ahupua'a*, a Hawaiian concept of social-ecological systems, can bring people and ecosystems closer together (Chang et al. 2019). The Korean Village Groves Restoration Project, which focused on restoring traditionally planted village groves (*Maeulsoop*) that had originally been established based on local beliefs, worked with socio-cultural restoration principles, integrating them into the project, and helping renew cultural connections to these forests (Lee and Krasny 2015). In southern Scotland, UK an entirely community-led initiative has resulted in the pioneering and expanding restoration of a large-scale forest landscape (The wild heart of southern Scotland). On the site was found the oldest prehistoric yew longbow (*Taxus baccata*) ever found in Britain and a Mesolithic bowman became the project's inspirational emblem (Ashmole and Ashmole, 2009 & 2020).

Our results show that the 10 cultural questions provide a way for potentially meaningful engagement with stakeholders and rightsholders who hold cultural knowledge about restoration. Recognising a diversity of knowledge opens up the decision-making context to be more inclusive of all who are part of the ecosystem to be restored (Gorddard et al. 2016; Colloff et al. 2017). Deeper approaches that diversify and formalize decision making voices include frameworks for integrating Indigenous and western knowledge systems such as Two-eyed seeing from Canada (Bartlett et al., 2012, Martin et al., 2017) and Two Ways Knowledge from Australia (Muller, 2012). Another framework specifically unites western and Maori knowledge in New Zealand focusing on three phases of getting together, working together, and writing together (Cisternas et al., 2019), which have helped in amphibian conservation. While another approach proposes that "living labs" be created to bring together researchers, practitioners and stakeholders to use a social-ecological framework, incorporating cultural knowledge, to accompany restoration projects as they unfold (Fischer et al. 2021). And finally, other authors propose a co-developed workshop based on deep listening to Indigenous voices, where shared principles are developed and then implemented (Robinson et al. 2021).

The application of the 10 cultural questions is a form of "indigenizing" restoration; however, one can go much further: promoting Indigenous-led restoration (Hernandez and Spencer 2020). Locally-led FLR initiatives, including Indigenous ones, may be rare (Schweizer et al. 2021). However, Indigenous institutions also have leading roles in restoration. In one example from Hawai'i, the concept of *malama I ka 'aina*, meaning "care for the land", is being used by the Indigenous-led Kamehameha Schools, which own 10% of the land in Hawai'i (Kura-shima et al. 2018). They propose the following for inspiring other groups on how to return to being stewards of their lands: being guided by their worldview, looking to their foundations and connections to landscapes (through traditions and genealogies), considering their institution's function today, and their responsibility in light of their history and land stewardship.

### 6.1. Towards new cultures of restoration

In a landscape under restoration, there are many ways to recognise cultural restoration practices and we provide but one way in this paper. Restoration project goals may be aligned with western or colonising cultures, and exclude local ones; this led Wehi and Lord to conclude that ignoring cultural restoration knowledge was continuing a colonial perspective of nature and knowledge (Wehi and Lord 2017). Hernandez



and Spencer (2020) propose three indicators of indigenizing restoration: kincentric ecology, environmental narratives and eco-colonialism. Martinez (2018) goes further to suggest ways to integrate kincentric ecology into sustainability: resource ownership imbued with care, minimum yield harvesting, promoting cultural methods that enhance biodiversity, avoiding technologies that foster ecological instability, and promoting social traditions which foster wealth redistribution. In this paper and the tool presented, we propose a way to bring cultural understandings of forests into ROAM processes.

Historical contexts matter to restoration initiatives (Campese et al. 2021). In some cases, tree planting is associated with colonial legacies (Walker 2004). Where communities have lost their traditional rights over forests, projects focusing on later restoring such areas can be engulfed in conflict, as was the case in Benin (Idrissou et al. 2011). Finding ways to recognise cultural restoration knowledge, and develop new ways to work together on restoration becomes important in these contexts.

We need new cultures of restoration (Cross et al. 2019), “re-root”ing ourselves in landscapes, bringing our ethics and cultures into action (Nelson 2018) and creating new pathways for restoration in the future (Blignaut and Aronson 2020). Considerations of culture in FLR help to root restoration policy and practice in past and current cultural norms and practices, recognising that each present barriers and opportunities for restoration and present a vision for generating a new culture of restoration, where ecosystems are restored as are planetary boundaries (Fig. 1). A new culture of restoration can be informed by past traditional cultures and forest relationships and a current culture predominantly, but by no means exclusively, of degradation within which national restoration targets have been developed. In many places, there is a post and neo colonial culture of exploitation driven by priorities of economy over ecosystems. But where traditional and new cultures of restoration have survived or emerged, there may also be traditional or new barriers to restoration to be overcome. It is hoped that this exercise could help in the development of new cultures of restoration in landscapes across eastern and southern Africa and more widely.

## 7. Conclusion

This paper sought to describe the development of 10 cultural questions on integrating culture into ROAM processes. Through describing the processes in Malawi and Mozambique and the regional uptake of the method and outcomes for restoration policy, we show culture is an important factor, providing both opportunities and barriers for restoration policy and the need to be included in policy formulation. It is considered that cultural themes such as cultural institutions, sites and species will become critical during the ‘on the ground’ and ‘within the landscape’ restoration efforts. Likewise, barriers to restoration that have a cultural component will require focus and efforts to align with restoration practices. We make recommendations for an adjusted application of the 10 questions and hope that it will broaden its use in future ROAM processes and in other contexts.

We present a way to incorporate cultural knowledge into ROAM processes, bringing both knowledge and the knowledge holders to the table, and moving beyond the knowledge extraction processes that are common when working with Indigenous knowledge (Latulippe and Klenk 2020). It provides a way for ROAM practitioners to engage with cultural understandings of forests and their knowledge-holders. Such insights into cultural ways of seeing forests are critical to the ROAM process which would otherwise completely miss the relevance of forests in the local culture, but also miss a way to engage with traditional authorities and their knowledge and leadership. This was illustrated for example in the interview with Traditional Authority Senior Chief Kwataine of the Ngoni culture in Malawi (Supplementary Material: Annex 2), who noted that the graveyard forest is seen as “clothing for the ancestors”, demonstrating the important link for the Ngoni culture between forests, people and their ancestors.

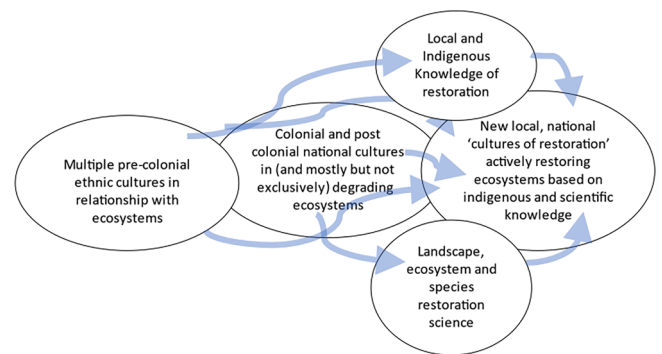


Fig. 1. Towards new cultures of restoration.

Land, coastal and ecosystem restoration provides a tangible solution to multiple societal challenges including, poverty reduction, biodiversity loss and climate change adaptation and mitigation. We urgently need new cultures of restoration to emerge that contribute to this global effort that is the remit of all communities. We sincerely hope this paper is a small contribution to achieve this greater goal.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.foreco.2021.119825>.

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