Climate Change Adaptation in The Gambia: The Role of Kanyeleng Communication and Performance

Bonnie B. McConnell and Sheikh Omar Jallow

Abstract: Traditional communicators known as *kanyeleng* have increasingly taken on roles in climate change adaptation in The Gambia. Drawing on ethnographic research conducted from 2018 to 2019, McConnell and Jallow show that kanyeleng performers contribute to disseminating information about climate change adaptation while also creating the social conditions necessary for citizens to hear and respond effectively to that information. Understandings of climate change in The Gambia intersect with broader concerns about loss of traditional and religious values. Through their performances, kanyeleng work as mediators to resolve tensions associated with climate change adaptation and integrate Indigenous environmental knowledge and climate science.

Résumé : Les communicateurs traditionnels connus sous le nom de kanyeleng assument de plus en plus de rôles dans l'adaptation aux changements climatiques en Gambie. S'appuyant sur une recherche ethnographique menée de 2018 à 2019, McConnell et Jallow montrent que les artistes kanyeleng contribuent à diffuser de l'information sur l'adaptation aux changements climatiques tout en créant les conditions sociales nécessaires pour que les citoyens puissent entendre et répondre efficacement à cette information. La compréhension des changements climatiques

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Bonnie B. McConnell is a Senior Lecturer in the School of Music at the Australian National University. Her research examines music in relation to issues of health, development, and social change in West Africa and Australia. McConnell is the author of the monograph *Music, Health, and Power: Singing the Unsayable in The Gambia* (Routledge, 2019). Email: Bree.McConnell@anu.edu.au

Sheikh Omar Jallow is the Director for Literature, Performing and Fine Arts at the National Centre for Arts and Culture (NCAC), The Gambia. He is a born kanyeleng with the alias Suntukung, in addition to being a trained film maker and producer. Email: kanyeleng@gmail.com

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en Gambie recoupe des préoccupations plus générales au sujet de la perte des valeurs traditionnelles et religieuses. Grâce à leurs performances, kanyeleng font office de médiateurs pour résoudre les tensions associées à l'adaptation aux changements climatiques et intégrer les connaissances environnementales autochtones ainsi que la science climatique.

Resumo: Os comunicadores tradicionais conhecidos como *kanyeleng* têm assumido um papel cada vez mais preponderante no processo de adaptação às alterações climáticas na Gâmbia. Com base na investigação etnográfica realizada entre 2018 e 2019, McConnell e Jallow demonstram que os *kanyeleng* contribuem para divulgar informação acerca da adaptação às alterações climáticas e, simultaneamente, criam as condições sociais necessárias para que os cidadãos possam ouvir e reagir eficazmente a essa informação. Os modos de interpretar as alterações climáticas na Gâmbia inter-relacionam-se com preocupações mais amplas sobre a perda de valores tradicionais e religiosos. Através das suas performances, os *kanyeleng* funcionam como mediadores para a superação das tensões associadas à adaptação às alterações climáticas e articulam os conhecimentos indígenas sobre o ambiente com a ciência do clima.

Keywords: The Gambia; West Africa; climate change adaptation; environmental communication; traditional communication; conflict mediation; music; ethnomusicology; ecomusicology

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Introduction

As a low-lying, densely populated country where the majority of the population rely on rainfed agriculture for their livelihoods, The Gambia is considered to be particularly vulnerable to the effects of climate change (Jaiteh & Sarr 2011; Badjie et al. 2019). Unpredictable rainfall, sea-level rise, and decreasing agricultural productivity (among other challenges) threaten farmers' ability to feed their families and sustain their communities, cultures, and musics into the future (Jaiteh & Sarr 2011). Recognizing the particular challenges facing communities in The Gambia, a growing number of internationally funded development initiatives have sought to promote adaptation and resilience in order to minimize the impact of climate change on poor communities. While adapting to a changing climate is an urgent priority in this region, international climate change projects often reproduce top-down models of adaptation that are misaligned with local priorities and strengths, and in some cases exacerbate inequality and conflict (Læssøe 2010; Nyong et al. 2007; Raineri 2020).

The term "climate change adaptation" describes the way communities change in order to sustain continuity in the face of an increasingly volatile climate (Stringer et al. 2009). In an effort to promote community participation and mediate potential conflicts, climate change adaptation programs in

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The Gambia have increasingly engaged community-based musical performers to disseminate information about climate change to farmers in rural areas. In this article, we explore the way local performers known as *kanyeleng* have engaged with climate change adaptation, using mediation as a primary conceptual focus. We show that through their performances, kanyeleng work to mediate tensions between social actors as well as between disparate conceptual understandings of the nature of climate change and appropriate adaptation measures. Kanyeleng perspectives, songs, and performances reveal both synergies and frictions between Indigenous knowledge and communication systems and climate science.

This article draws on ethnographic research conducted from 2018 to 2019, which included participant observation and interviews with kanyeleng performers, farmers, and climate change adaptation project workers in The Gambia. In addition, our research is informed by our long-term engagement with kanyeleng practices as a "kanyeleng dingo" (kanyeleng child) and cultural worker (Jallow) and as a researcher and longstanding member of the Talinding kanyeleng group (McConnell).

Kanyeleng groups are female fertility societies comprised primarily of women who have experienced infertility or the death of one or more children (McConnell 2019a; Hough 2006; Saho 2012). They are known for their funny, entertaining performances as well as their ritual knowledge relating to fertility and reproductive health. Kanyeleng are also recognized for their ability to manipulate the weather. In cases of drought, they have a repertoire of rainmaking songs to bring the rains. They also have techniques for temporarily preventing the rain from falling during their performances. While other groups also engage in these practices, kanyeleng have particularly deep knowledge and expertise in rainmaking. As has been documented elsewhere in Africa (e.g. Sanders 2008; Ngara 2014), rainmaking practices in The Gambia are closely intertwined with Indigenous notions of gender and fertility. In kanyeleng ritual knowledge, environmental wellbeing and the fertility of the land are symbolically and materially linked to the health and fertility of humans. The activities of kanyeleng groups, combining ritual, prayer, performance, and trickery, demonstrate this linking of environmental and human wellbeing.

During the past decade, kanyeleng have been increasingly engaged in climate change communication and adaptation programs in collaboration with government ministries as well as various non-governmental organizations (NGOs). While partnerships between kanyeleng groups and agricultural and environmental agencies emerged as early as the 1980s (McConnell 2019a), they have taken on new forms in the context of contemporary climate change adaptation programs. In these programs, kanyeleng use songs to disseminate information about climate change adaptation and to promote community mobilization to address the accompanying challenges. These climate change adaptation programs present their own challenges, however, because although there is wide agreement that life has become harder for farmers in The Gambia, there is less consensus regarding the appropriate

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responses to changing environmental and climatic conditions. Climate change adaptation is not a streamlined procedure of translating knowledge into action, but rather a multi-layered process of negotiation between actors at the local, national, and international levels. The negative impacts of climate change may be managed through measures such as installing drip irrigation systems in response to drought, building anti-saline dikes to prevent salt-water intrusion, constructing drainage systems to prevent erosion, or planting early-maturing or drought-resistant crops, among many other approaches (Kutir et al. 2015; Bojang et al. 2020). The process of prioritizing specific adaptation measures in particular communities with the available resources is, however, not always straightforward. As Kim Yi Dionne has demonstrated, development interventions often fail as a result of "misaligned priorities" between those who are planning the interventions and those who are implementing them (2017:4). In the context of The Gambia, most interventions are designed by external experts but implemented by local extension agents and traditional communicators such as musicians. The complexity of the dynamics of power in these climate change interventions and the role of local actors such as traditional communicators in negotiating conflicts and identifying ways forward has been neglected in existing research. We argue that the involvement of community-based performers such as kanyeleng in climate change adaptation programs serves as a means to disseminate information while also facilitating the necessary process of negotiation between Indigenous knowledge systems and climate science and between social actors with different ideas about appropriate responses to climatic and environmental change.

This project draws on and contributes to the field of ecomusicology, which offers critical perspectives on the way music articulates situated understandings of nature, the relationship between humans and their environment, and the role of music in environmental movements (Allen & Dawe 2016). An overview of this diverse field is provided by Aaron S. Allen (2016), who shows that ecomusicological research sits on a spectrum from aesthetic concerns to practical and activist projects. Our research is part of a growing body of scholarship investigating the diverse environmentalisms expressed through performance practices around the world and the way musicians are negotiating the contemporary landscape of climate change discourse and resources in the Global South (see Grant 2018; Pedelty et al. 2020; Dirksen 2018; Titus 2019; McDowell et al. 2021).

This research pushes beyond the view of Indigenous people as passive victims of climate change, or as custodians of an unchanging natural environment (see Ford et al. 2020), to explore the role of music in expressing Indigenous perspectives and inspiring social mobilization in the face of an increasingly volatile climate. Our research responds to a growing concern for diverse environmentalisms (McDowell et al. 2021), moving beyond the focus on environmentalism as a white middle-class movement in the developed world to explore Indigenous environmental ontologies and epistemologies. Music offers a rich site for interrogating diverse environmentalisms,

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illuminating culturally meaningful forms of participation, and charting a course of action that is grounded in local strengths.

Drawing on Anthony Nyong et al., we use the term "Indigenous knowledge systems" to refer to "local knowledge that has been built upon and passed on from one generation to the other by word of mouth" (2007:792). Research shows that Indigenous knowledge and communication systems provide an important resource for promoting resilience and adaptation in the face of climate change and environmental degradation (Titus 2019; Titus & Titus 2017; Impey 2002; Nyong et al. 2007; Petheram et al. 2010). However, international development discourse reproduces deficit narratives that attribute environmental problems to traditional agricultural practices while neglecting to engage with the rich body of Indigenous knowledge in regions such as the West African Sahel where people have been living with periodic drought for centuries (Mertz et al. 2009). Climate change programs tend to be based on a top-down model of information dissemination, which does not adequately engage communities in developing their own solutions to the problems they face (Nyong et al. 2007). By focusing on musical performance, this project provides insight into local knowledge and communication systems in a context where song has long served as a repository of information about history, place, and the environment and as a resource for social mediation.

Using a music-centered approach to climate change adaptation reveals the complex ways in which cultural and environmental changes are interwoven. During research conducted between 2018 and 2019, we identified numerous changes in performance practices as a result of changing climatic and environmental conditions. For example, because drought has caused a shortage of the large calabash gourds necessary for making kanyeleng water drums (*jiikijo*), women have increasingly been using the *bidong* (20-liter plastic jerry can) as a replacement instrument. Likewise, loss of native tree species in the western part of The Gambia has resulted in changes to the *kankurang* masquerade, listed by UNESCO as a Masterpiece of the Oral and Intangible Heritage of Humanity in 2005 (De Jong & Rowlands 2016). Because the necessary tree barks are not locally available, performers have created new kinds of kankurangs by recycling rice sacks and plastic bags. During our research, some performers saw these changes as evidence of the weakening of tradition, while others asserted that flexibility in kankurang costumes and women's percussion instruments was evidence of the resilience and adaptability of cultural practices in the face of changing environmental conditions. This demonstrates an ongoing process of cultural adaptation in response to environmental and climatic changes, and the dynamic, creative negotiation of tradition (*coosaanoo,* Mandinka) to create a sense of continuity with the past while responding to changing circumstances in the present and preparing for an uncertain future.

Ethnomusicological scholarship has demonstrated that musical performance is often a powerful tool for health and development communication because of the way it combines the intellectual, social, and emotional aspects of experience (Barz 2011; Barz & Cohen 2011; Frishkopf 2017; Frishkopf et al.

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2016; Impey 2006). This study builds on previous research (McConnell 2015, 2016, 2017, 2019a), which showed that health communication outcomes are fundamentally shaped by the social contexts of communication and the level of trust between the communicators and their target communities. The significance of these findings was reinforced during fieldwork in 2018 and 2019, when we observed first-hand the failure of a development intervention as a direct result of a breakdown in trust between government agencies and community members in the Foni region of The Gambia. There is an urgent need for culturally appropriate, community-engaged approaches to build the strong, trusting relationships that are necessary for effective communication on challenging topics related to climate change adaptation. Greater attention to cultural practices such as music should be incorporated to support these efforts.

Mediating Conflicts and Disputes

In the village of Mademba Kunda in the North Bank region of The Gambia, we asked the local kanyeleng group about their role in climate change adaptation programs. The group explained that their most important role was to call people together and resolve conflicts and disputes. They elaborated that the village of Mademba Kunda was home to different ethnic groups, including Fulas, Wolofs, and Mandinkas, and in their performances they aimed to bring all these groups together to solve problems collectively. To accomplish this, they intentionally crafted their performances to appeal to different ethnic groups by incorporating different languages and different dance rhythms. The group noted that for Mandinka songs, they intentionally used the *musuba* ("big woman") rhythm because it was slower, and the song lyrics would be easier for people from different ethnic groups to understand (interview, Mademba Kunda, April 8, 2018). As is often preferred in Mandinka conflict resolution approaches (see Davidheiser 2006a), the group noted that they did not typically assign blame or have conflicting parties narrate their grievances; rather, they focused on bringing people together, joking, singing, and dancing (interview, Mademba Kunda, April 8, 2018).

In this article, we use the term "mediation" broadly to describe kanyeleng practices that contribute to resolving "opposing preferences between parties" (Carnevale & Pruitt 1992:532). This includes targeted interventions as well as the indirect ways in which kanyeleng performances may facilitate the resolution of conflicts and disputes. A relationship between musical expertise and conflict mediation is well known in this part of West Africa. In particular, hereditary specialists known as griots (*jaloolu* in Mandinka; *guewel* in Wolof) are recognized for their expertise in areas such as musical performance, genealogy, history, praise singing, and the mediation of interpersonal and intergroup conflicts (Hale 1998; Charry 2000). Despite the continuing importance of griots' conflict mediation roles, however, with the exception of the work of Barbara Hoffman (2001, 2017) and McConnell (2019b, 2020), the contemporary significance and adaptation of mediation practices has been neglected in scholarship. Furthermore, the way in which non-griot

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performers engage with conflict mediation has also been overlooked in existing research (see McConnell 2019b).

Our research suggests that kanyeleng performers are viewed as particularly adept in the mediation of conflicts because of their unique social position, knowledge, and skills. Unlike being a griot, which is a hereditary specialization, kanyeleng membership is not hereditary.[1] Women typically join kanyeleng groups when they experience challenges relating to infertility or child deaths. Kanyeleng practices vary significantly between regions and ethnic groups. One common cause of infertility for a kanyeleng woman is understood to be the actions of a *kuntofengo,* or spirit husband, who jealously prevents her from having a child with her human husband. In order to address this problem, kanyeleng will often take on a new name and ethnicity, engage in comedic performances, and dress in unusual clothing, such as clothing normally worn by men or ragged clothing that would ordinarily be discarded. These actions are intended to make the woman unrecognizable to her spirit husband, while also demonstrating to God her desperate longing for a child (Hough 2006; Saho 2012; McConnell 2019a, 2020).

Becoming a kanyeleng also gives a woman a unique social position. Infertility is highly stigmatized, and kanyeleng experience significant challenges if they are unable to have the large family that is considered ideal for a woman's social status and security. The impact of having no or few children and the associated practice of *kanyelengyaa* (being a kanyeleng) are linked to the work of women in the rice fields. Traditionally the pride of every woman in the rural communities is to have a large enough family to be able to produce surplus agricultural products, and those who do not have enough family members to contribute to crop production are vulnerable to food insecurity. Kanyelengyaa is a collective response to the challenges facing women with few or no children; it aims to encourage fertility, while at the same time leveraging their marginal position to achieve new forms of influence as entertainers, communicators, and mediators.

One of the defining features of kanyelengyaa is that they are able to challenge authority and engage in behaviors that would ordinarily be taboo. Kanyeleng are often described as "shameless" (*abuka malu* in Mandinka) and as "everyone's joking cousin" (*moolu bee sanawoo*) (McConnell 2019a). Joking relationships (*sanawuyaa*) are an important feature of social life in The Gambia and the surrounding region. Joking relationships exist between particular ethnic groups, between residents of particular regions of the country, and between grandparents and grandchildren, for example (De Jong 2005; Davidheiser 2006b). When two people have a *sanawuyaa* relationship, this means that they are not supposed to take offense from each other, even if their joking partner says or does things that would normally be frowned upon. In the case of kanyeleng, they are able to get away with theft, joking about sensitive topics, and ridiculing authority in a way that would ordinarily be prohibited. As scholars such as Peter Schraeder (2011) and Mark Davidheiser (2006b) have noted, joking kinship provides an important tool for conflict mediation in this part of West Africa. The special social

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position of the kanyelengs as "everyone's joking cousin" is one of the factors that our interviewees identified as contributing to their effectiveness as development communicators and conflict mediators. In contrast to griot performers, who are known for their extensive knowledge of history and genealogy and relationships with particular families, which gives them special leverage in conflict mediation, for kanyeleng it is their skill as entertainers and comedians and their special joking cousin status that are seen as significant in facilitating conflict resolution and effective communication.

While not initially a focus of our research, conflict was a recurring theme in our discussions of kanyeleng engagement with issues of climatic and environmental change. For example, the largest climate change adaptation program to be implemented in The Gambia is the USD25.5 million Large-Scale Ecosystem Based Adaptation Project (2018–2023), launched by the Green Climate Fund. The project has engaged traditional communicators, particularly kanyeleng groups, in many of its activities. The project director, Lamin Nyangado, described the role of traditional communicators as a continuation of longstanding practices of conflict resolution. He explained that this aspect of their role is important because of the way environmental changes and the programs implemented in response to those environmental changes inspire conflicts and disputes. For example, conflicts frequently arise over the management and use of community forests. Nyangado explained:

> So for natural forests, in the past these were seen to be government areas, and like in the communities, it's a free hold, even though the government had forest parks, the communities were getting into the forest parks, because for most of us, the forest is everybody's property. So those days you were in conflict with the state. But then now that the practice of handing over forest areas to communities for management, there can be huge potential for conflict, especially if certain businesses are created. When it comes to protection, you don't go to help, and then when it comes to harvesting of fruits and so on, you want to go there. Obviously, those who have been going there will challenge you… And that can be a major source of conflict. And then all of these things, once it starts, I can imagine a traditional communicator jumping in, making a joke of the whole situation, making this one laugh, making the other one laugh, so that they compromise. So [traditional communicators] are very critical. They are very necessary in any awareness creation situation that we find ourselves in. (Interview, Fajara, March 13, 2018)

Together with our other interviewees, Nyangado explained that kanyeleng are particularly effective in defusing conflict because of their skillful use of humor and songs. This is important for climate change adaptation programs, which often generate tensions relating to changing agricultural practices, forest management, and land use (see Raineri 2020).

This point was reiterated by the kanyeleng performer Takatiti, who has extensive experience working as a communicator for agriculture and environment programs, which have been engaging kanyeleng groups in their outreach

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initiatives since the 1980s. Takatiti explained that community forests were notoriously prone to conflicts over access to land and resources (see Raineri 2020 for related discussion). In his work with the forestry department, Takatiti used his kanyeleng skills of communication, entertainment, and joking to resolve conflicts and establish positive relationships (*kanoo,* literally, "love") with community members (interview, Janjanbureh, December 19, 2018).

Many of our interviewees emphasized the way that environmental changes and adaptation programs themselves inspired conflicts and disputes, making kanyeleng interventions particularly important. At the same time, however, social conflict and a breakdown in moral values were described not just as outcomes of but also as contributors to climatic and environmental change. For example, when asked about his observations of the local climate and environment, musician C-Boy described the negative social changes that he had identified:

> Even what was happening between us as human beings is not happening now. There was a time when there were no fences between the compounds in our settlements. When food was ready everybody was invited to come and eat together. But now this is not happening. Now people adopted a western life, they don't care about each other. (Interview, Kotu, January 25, 2019)

A lack of social care, immoral behavior, and westernization were identified by C-Boy and other interviewees as factors contributing to climate and environmental change. In other words, environmental problems were viewed as thoroughly intertwined with social and spiritual problems. This kind of integrative perspective is also reflected in the way in which kanyeleng ritual practices link the fertility of the land with the fertility, health, and social and spiritual condition of humans.

This integrative perspective on climate change has been examined by Dianna Bell (2014), based on research in Mali. Bell writes, "Muslims in Mali commonly accounted for climate change in terms of social and political conflicts," and people employed ritual practices "to manage peacefully the negative consequences of their increasingly arid environment" (2014:287). Just as we found in the context of The Gambia, Bell notes that interpretations of climate change in southern Mali were shaped by ideas about religion and moral values. Some people attributed climate change to God and aimed to accept and endure the challenges it presented, while others saw it as a consequence of immoral human behaviors such as the abandonment of traditional and/or Islamic values, or interpersonal/intergroup conflicts (Bell 2014; see also Cherif & Greenberg 2013). These local understandings of climate change causes also shape the types of responses and adaptation measures that people prioritize (Kutir et al. 2015). The context of The Gambia appears to share similarities with the conceptualizations of responses to climate change identified by Bell in Mali (see Bagagnan et al. 2019; Kutir et al. 2015), which aligns with a strong emphasis on the values of patience,

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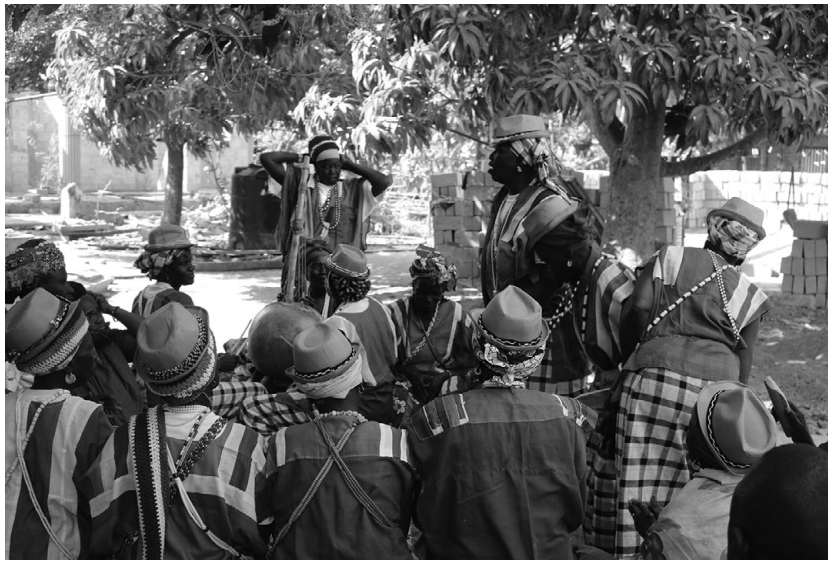
fortitude, prayer, conflict resolution, and reaffirmation of moral tenets in response to climatic challenges.

From an ethnomusicological perspective, Rebecca Dirksen's research in Haiti has likewise explored the way climate and environmental changes go hand-in-hand with concerns about social conflict and loss of culture and traditional values (Dirksen 2018, 2019; see also Titus 2019). Furthermore, Dirksen contributes a much-needed critique of international development agendas as they intersect with issues of environmental degradation, music, and culture in Haiti. Dirksen's research is aligned with our findings in The Gambia, where music serves as a privileged site for negotiating tensions relating to climatic and environmental changes, which intersect with broader concerns about social and spiritual wellbeing.

The Ndemban Simbing Kanyeleng group from the village of Ndemban in the Foni region have a song in their repertoire which is titled "Chopping down a big tree is a disaster." This song demonstrates aspects of this conceptual linking of environmental degradation and climate change with broader social, political, and spiritual problems. While the Ndemban kanyeleng (see Figure 1) are predominately Jola, this song employs the Mandinka language, led by the singer Jarra Sonko. The song also includes the *simbing,* which is a 3-stringed arched harp associated with men's singing among the Jola, as well as with Mande hunters' societies. While the simbing has been historically played by male performers, the kanyeleng have incorporated it into their performances in an effort to revitalize interest in this instrument, which is no longer as widely

Figure 1. The Ndemban Simbing Kanyeleng group in performance, January 2019



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played as it was in the past (interview, Ndemban, January 8, 2019). In this song, the simbing is played by two performers, one plucking the strings and the other playing Mandinka dance rhythms on the gourd resonator with two sticks.

The song was composed by the Ndemban kanyeleng group in response to the problem of deforestation in the Foni region, which is historically one of the most heavily forested and fertile parts of the country. Since 2014, this region and parts of the Casamance region across the border in southern Senegal have experienced intensive illegal logging, with the lumber being sold to China (Dampha 2021). While this logging trade was particularly active and lucrative during the regime of the former president Yahya Jammeh, who was known for his lack of transparency and abuse of human rights, the trade has also continued since Jammeh's departure in 2017. This song is outspoken in criticizing corrupt local and national leaders who benefit from the destruction of the forest.

Ànna dandaŋolu m̀ maŋ ì tankandi noo.	We are not able to protect our environment
Yiri baa boyoo mu mantooroo le ti.	Chopping down a big tree is a disaster
Ànna dandaŋolu bee kasaarata.	Our environment is completely destroyed
Yiri baa boyoo mu mantooroo le ti.	Chopping down a big tree is a disaster
…	…
Alikaaloolu ye a kalamuta	It is known to the village heads
Seefoolu ye a kalamuta	Known to the chiefs
kumandaŋolu ye a kalamuta	Known to the commissioners.
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Bari ì bee maŋ feŋ fo de, ǹ diŋolu be kasaara la.	But they all said nothing, and our environment is being disroyed.
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
…	…
Tiloo be bo la a be ǹ kuŋolu feteŋ na	The sun is shining, breaking our heads
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
I ye feŋ wo feŋ tutu hani a te montoroo waatoo sii la	Anything you plant, in less than an hour it will die
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
…	…
Alihawaa jaŋ a yelemata baabaake le	The climate has changed a lot
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
A maŋ ke feŋ ti fo m̀ faŋolu keñaa	Which is due to our own behavior
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Yiroo meŋ ñanta jiyo muta la m̀ maŋ a soto	The trees that should hold the water are not there
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Ì maŋ a tu bantaŋ ye	They did not spare the silk cotton trees
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
…	…

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Biriŋ ì ye jinoolu la dulaalu bee baŋ	When they chopped down all the places for the jinns
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Jinoolu maŋ tu noo wuloo kono	The jinns are unable to stay in the bushes
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Ì ye ǹ waliŋ suwo kono ì ye ǹ diŋolu busandi	They come to us in our homes and make our children fall down
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Ì ye karambuŋo bee balaŋ kaŋ	They disturbed all the schools
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Karambuŋo to kasaaroo be jee	There is a disaster in the schools
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Niŋ meŋ karanta tili fula saba	When you go to school two to three days
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Ì si wo ñori naŋ i kaŋ ì ko i ye a ka busandi le	They will bring you [the child] and tell you that they are falling down
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
…	…
Fondinkewolu ko ì te dookuwo ke la	Youths refused to work
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Fo i ye tara yiriboyoo la wuloo kono	Only chopping down trees in the bush
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Moo wo moo maŋ dookuwo ke fo i ye kuu doo ke de	If you refuse to work, you will do something that is not good
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Ǹ dandaŋolu tankandiñaa dukaree ali ŋà ñoo maakoyi	Let us help each other for the protection of our environment
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Alikaaloolu ye a kalamuta le de	It is known to the village heads
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Seefoolu fanaa ye a kalamuta le de	It is known to the chiefs
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Kumandaŋolu ye a kalamuta	It is known to the commissioners
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Mansakundaa ye a kalamuta	It is known to the government
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Bari ì te a fo noo la ì bee daa be fulee kono	They cannot say anything because they are all earning something from it
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
Ì ka muwaŋ niŋ luuloo soto le wo le ye a tinna ì maŋ diyaamu	They are receiving twenty-five dalasi they cannot say anything
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster

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Saayiŋ masiŋo be kumboo la suutoo niŋ tiloo	The machine for chopping down the tree is on night and day
Yiri baa boyoo mu mantooroo le ti	Chopping down a big tree is a disaster
	Translation by Kitabu Jabang

This song is outspoken in its critique of the various actors who have benefited from the logging trade; it articulates the far-reaching negative consequences resulting from the destruction of the forests, placing the blame on the government, including corrupt local government officials who turn a blind eye to illegal logging because they are receiving financial benefit in the form of bribes. It also expresses concern about the laziness of youth, who are unwilling to work hard on the farms and instead seek to make easy money through cutting trees in the forest. This song reflects the common emphasis on the social dimensions of environmental degradation and climate change that emerged in our research; research participants recognized the way responses to environmental degradation and climate change required social negotiations to mediate diverging interests and priorities around the appropriate use of land and resources. Because of their unique social position as "everyone's joking cousin," kanyeleng are seen as being particularly skilled in opening up community dialogue on difficult topics such as government corruption, as evident in this song.

Furthermore, in this song and in interviews with the Ndemban kanyeleng, group members emphasized the far-reaching spiritual and health problems that result from deforestation and climate change. These include struggles with increasing heat and intensity of the sun and the challenge of growing adequate healthy food without predictable rainfall. In addition, the group emphasized the spiritual and health problems caused by jinns (spirits) when the forest is cut. When big trees are cut down, the jinns that make their homes in those trees are forced to relocate; they come into the villages and cause problems for humans. They may cause illnesses of various kinds, including infertility or childhood illnesses. In particular, jinns were identified as the cause of an ongoing problem of children collapsing in local schools. The Ndemban kanyeleng song demonstrates this linking of maternal and child health with environmental health that was a recurring theme in our research, and in kanyeleng ritual practice more broadly.

This song is more outspoken in assigning blame than is the case in many other kanyeleng songs. As noted above, in situations of conflict there is often (though not always) a preference for indirect language focused on conciliation rather than retribution (Davidheiser 2006a; McConnell 2019b). However, by emphasizing the multiple actors who have contributed to the problem, and the far-reaching impacts of the logging trade, the song frames it as a problem of survival that is bigger than any individual. Emphasizing the broader consequences of actions is a common theme in Mandinka language conflict mediation and problem-solving discourse; that is, mediators

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frequently foreground the long-term negative impacts of an interpersonal conflict on family and friends, which can help conflicting parties to look beyond their individual dispute and work toward reconciliation to create the best outcome for the group as a whole (Davidheiser 2006a; McConnell 2019b, 2020). This is frequently articulated through Islamic discourse, with conflict resolution framed as a moral good and responsibility for a devout Muslim.

Mediating Knowledge and Communication Systems

In addition to mediating tensions relating to environmental degradation and climate change, our research suggests that kanyeleng songs play an important role in mediating between Indigenous knowledge systems and climate science. This aspect of the kanyeleng role is linked to the broader theme of conflict mediation, as tensions between disparate knowledge systems and agricultural practices can generate social frictions between the various actors involved in climate change adaptation programs.

One project that serves to demonstrate the negotiation and integration of Indigenous knowledge systems and climate science in kanyeleng performances is ActionAid International's Climate-Resilient Sustainable Agriculture (C.R.S.A.) Project. This project aimed to combine Indigenous knowledge and communication systems with the science of climate change adaptation in order to produce outcomes that were locally meaningful and effective.

This merging was evident both in the content of the project (e.g., information about climate change adaptation measures) and the way that information was produced and disseminated in the target communities in the North Bank and Central River Regions. The project engaged kanyeleng groups as an integral component of the communication strategy. At the same time, the project employed a mobile phone network and radio programs to help disseminate information to farmers. The importance of combining communication methods in this way is supported by research conducted by Cynthia Kutir et al. (2015) in the North Bank Region of The Gambia, which showed that people have different preferences and levels of trust for different communicators and media. Employing a combination of different communication methods is therefore preferred as a means of effectively engaging rural farmers.

In the C.R.S.A. project, the information communicated through these media also combined Indigenous environmental knowledge with climate and weather science. Kanyeleng were perhaps particularly suited to this project, as kanyeleng rainmakers have established methods for predicting from the first drop of rain in the season whether it will be a year of good harvest or whether a shortage of rain would mar the season. Though sometimes these predictions are flawed, they have played an important role in preparing the community for eventualities of food insecurity. Forecasting the start of the rains has become progressively more challenging and important for farmers as the wet season has become more unpredictable and decreased in duration (Kutir et al. 2015). The C.R.S.A. project aimed to address this problem by drawing on Indigenous knowledge, including the observation of

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local flora and fauna, as well as consulting national meteorological forecasts. Combined, these methods provided more information for farmers to prepare their fields in time for the onset of the rainy season and to ensure the best crop outcomes. Likewise, the project combined Indigenous knowledge and meteorological forecasting to predict extreme weather events such as high winds, dust storms, and flooding as an important component of the disaster risk reduction strategy.

The following song, "Let's not destroy our country," was composed by a kanyeleng group from the village of Touba Kolon in the North Bank Region in connection with the ActionAid C.R.S.A. project. The song features Mandinka-language lyrics performed in the call-and-response form that is common in percussion and dance events, along with Mandinka dance rhythms performed on a bidong (20-liter plastic jerry can), which is a common women's percussion instrument played by kanyeleng groups and others. The song also features *saataroo*, meaning a narrative, heightened speech mode of delivery. This is the format that kanyeleng often prefer when they are performing in development communication contexts. It allows them to provide detailed information while maintaining the call-and-response format and the element of participation (McConnell 2017). The performance features a song and dance cycle, beginning with a slow tempo call-and-response singing section, and then moving into the faster tempo *lenjengo* dance. This is one of the most popular Mandinka dances.

I ye n karandi, i ko n kana nna banko tiña	They taught us, let's not destroy our country
Ɗa muru nna cosaanoo le kaŋ	Let's return to our traditions
I ye n karandi, i ko n kana nna banko tiña	They taught us, let's not destroy our country
Nna cosaani moolu ka ila kuwolu ke ñaameŋ, ntolu fanaŋ ŋa ke wo le ñaama	The way our traditional elders did things, let's do things like that
I ye n karandi, n kana nna banko tiña	They taught us, let's not destroy our country
Folo folo niŋ samaa ka naa naŋ, a ka taamanseeroo le ke jee	First, when the rains are coming, there are signs
I ye n karandi, n kana nna banko tiña	They taught us, let's not destroy our country
Niŋ taamanseeroo le mu, ntolu fanaŋ ñanta suuteroo ke la wo la	These signs, we should also recognize them
I ye n karandi, n kana nna banko tiña	They taught us, let's not destroy our country
Sanji folo, i ka yiroolu doolu jee, jamboolu be …	At the first rains, you will see a tree [baobab] will begin to grow leaves

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I ye n karandi, n kana nna banko tiña	They taught us, let's not destroy our country
Niŋ i ye wo je doroŋ, i ñanta pare la, ŋa taa nna dulaalu seneyandi	As soon as we see that, we should prepare our fields
	Translation by the authors

In this excerpt, the kanyeleng are emphasizing the ongoing relevance of Indigenous knowledge in responding to the challenges of climate change, asserting that the community needs to return to the practices of the traditional elders, such as the observing of natural signs of impending rain (i.e., baobab leaves). At the same time, the repeated line, "They taught us, let's not destroy our country," frames the entire song as a development intervention. The "they" in this line is referring to ActionAid International, the organization which funded the Climate Resilient Sustainable Agriculture project. The song combines reference to outside expertise and Indigenous knowledge in a way that is characteristic of this emerging climate change repertoire.

Our research showed that the work that kanyeleng are doing in mediating between Indigenous knowledge and communication systems and climate/weather science in projects such as this one is important, but it also presents particular challenges. As noted above, understandings of climate, weather, and appropriate agricultural practices are shaped by religious beliefs and values, as well as deeply held ideas about culture and tradition. While many people valued the use of new technologies and meteorological forecasts to help farmers, others saw the weather predictions as "playing god" and therefore inappropriate for devout Muslims. By combining these newer methods of forecasting weather with traditional approaches, our interviewees felt that the information was made more understandable and less threatening for listeners. That is, scientific methods of predicting the weather were framed as an extension of established approaches employed by local farmers, and combining the two produced the best information to improve agricultural outcomes and provide early warning for disasters.

While in some cases, weather science was viewed as incompatible with Islam for local farmers, in other cases a tension emerged between traditional weather-related knowledge and religious values. For example, kanyeleng rainmaking practices were described by many of our interviewees as an efficacious and valuable form of Indigenous knowledge relating to weather and climate. They defined rainmaking as a form of Islamic prayer and identified elements of continuity between kanyeleng involvement in contemporary climate change programs and their longstanding expertise in rainmaking. Others, however, viewed rainmaking practices as incompatible with Islam, and some kanyeleng groups actively distanced themselves from such

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practices, identifying elements of continuity instead with farming songs performed while groups prepared fields, transplanted rice, or weeded. The Ndemban kanyeleng group expressed concern about the loss of some traditional practices (such as farming songs, an ethic of hard work, and Jola instrumental performance traditions), while asserting that other practices (such as rainmaking) were now no longer appropriate and were even potentially dangerous because of changing religious values. These examples, among others, demonstrate contestation over weather and climate-related knowledge, which is bound up with broader concerns about changing social values, religion, and tradition.

Another example that demonstrates a negotiation of Indigenous knowledge systems and climate science is a song by Takatiti (see Figure 2), which was performed and recorded for our research. Takatiti is unusual in being known as a male kanyeleng. Like many kanyeleng, he is a one-of-a-kind entertainer who combines elements of humor with strong messages. He is a

Figure 2. Takatiti performing in Janjanbureh, January 2019

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well-educated farmer from rural The Gambia who can communicate scientific facts fluently in English, Mandinka, and Pulaar. Takatiti started singing as a way to more effectively communicate to a large audience as part of his work with agriculture and development organizations. He became a kanyeleng by association; Takatiti describes himself as a kanyeleng, and he is also described that way by others, including the kanyeleng groups with whom he performs. Takatiti sings kanyeleng songs and has taken on a kanyeleng persona.[2]

Takatiti employs a common kanyeleng compositional strategy, drawing on existing song melodies, lyrics, and dance rhythms, and adapting them to fit the messages he wants to convey. For example, one of the songs about climate change that he performed and recorded as part of our research project is based on the popular kanyeleng song "Kolonba" (Big Well). This is a song that is widely performed by kanyeleng groups throughout the country. It was a song that Bonnie McConnell was often asked to sing to demonstrate her own kanyeleng knowledge. We have heard different stories about its origins. Some kanyeleng explained that the big well referred to in the song was a well that had dried up; just as a well should have water, a woman should have a baby. This reflects the symbolic association of water (and rain) with female fertility in kanyeleng songs and ritual. This is a fertility or water-making song that Takatiti adapts to communicate messages about agricultural adaptation in response to drought. While the original is a Mandinka-language kanyeleng song, Takatiti sings it in the Pulaar language.

Kolon Baa mi salminimaa dee kolon Baa Gammbiyaa	Big Well I am greeting you, Big Well ooh Gambia
Sare woo misalminima saare dee Gambya	The villages and towns, I am greeting you oohh Gambia
…	…
Kolon baa ko waɗamni yimɓe ɓee kolom Baa jaraama	Big Well, what you have done for the people, thank you
Onoon gollooɔɓe meen addi kibaar mo ngan ndanɗaa, koɗum woni e aduna haa e weeyo ngo	You the workers (people in the regions) we have brought you news about the world and the environment
Aduna fewndoɗo wonaa no wonnoo, e wattu maaji meen	The world at this point in time is not like before during our grandparents' time
Jooni noon wuli haa ɓurtii, ndiyamɗam si no toɓa, ara haa'e waktu ɗi tiiɗataa,demal o welaani, si alaa ko toɓi, a heɓataa ko heewi e ngesa maa e farooji he	Now it is too hot, there is not enough rain the farming is not good, you will not have enough in your farm and in your rice field
ko ɗum noon heewini basal e dow basal kala hebbini ɗo Ñawu e dow yimmbe bee ngannduɗaa ɓe heewa jawdi ko ɓeen woni menen. ko weeyongo yakki	This is why poverty is too much, and poverty is a disease especially to people who have nothing, including us ourselves And the environment is spoiled

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jooninoon mballen hoore amen ɓayri si ko ka tubaakooɓe ɓen juɗooɓe nebbam, curki no ya ha dow tan yakkat ko wayni basal ngal ma maayo ngo, koɗum noon ɗuytata, doole tawi ko ɗum noon woni hakkunde amen e naage ngen	Now let us help ourselves, because if it is in the west, burning oil, smoke is going up causing poverty, this is what reduce the strength and this is what is between us and the sun
koɗum wadi aduna ɓuri wulde, yahoyi kala dee. Toɓata ko heewi ɓayri toɓata ko heewi demal ngal yahi ɓaawo, ko ɗum wonnoo problem amen	That is why the world became hot, and it went on that. There is not enough rain, farming became backward, this is what is our problem
…	…
onoon teeno ɓe yeeya leɗɗe, juɗooɓe kirin (sunnooɓe kiri). O noon ɗaɓɓooɓe babareeje, on woni ɗoon tayã nde ladde, jooni noon meen haalana oon ko heewi yakkaama toon	Ooh you people who fetch firewood and sell it and burn charcoal. You people who find timber wood and cut them down. Now we are telling you many things has spoilt
Kolon Baa ko waɗanɗaa yimmɓe ɓee waɗanam miin kadi. A jaraama	Big Well, what you have done for the people, do the same for me. Thank you
…	…
koɗum wadi jooni noon, ɓayri ndiyam ɗam heewata, en aaway awdi goɗo goo meen heɓa awdi wawndini wa awdi Bene, mbimi remen makkaari e masara haa jooni. Ndiyan hay ɗuuɗani ɗum no wayni ɗii soholaani ndiyam kewɗam. Si ndiyamɗa heewaali kala a heɓay seeɗa ka ngesa maa e faro maa. Hay neriika seeɗa ɓe ngannduɗaa ɓennday law, ɓe coklaani ndiyam keewɗam	Now that there is not much rain let us grow crops like sesame, I said let's plant maize and groundnuts. For this once even if the rain is not too much, they do not need much rain. If the rain is not much also you will have something small in your farm and your rice field. Even small nerika the one you know can ripe quick for harvesting, it doesn't need much water
Reween e ɗeen, golle aduna oon ka woni ɗoo, no heewi, ko meen woowunoo wonnde, meen wawa wonnoon Aduna wayliima weeyo ngo wayliima guleendi ndii ɓurti ndiyam ɗam hewaani hay mayo ngo no heewi lamɗam, kala to lamɗan rewi maaro reme taake toon	Let us follow that, the work in the world right now is a lot. What we have become used to before, cannot be the same. The world has changed, the environment also has changed, the heat is too much, rainwater is less. Even the rivers are full of salt, anywhere there is salt, rice cannot be cultivated there
Kolon Baa ko waɗanta yimɓe ɓee,Kolon yee.	Big Well, what you have done for the people ooh
	Translation by Modou Bah

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In contrast with the previous example ("Let's not destroy our country"), in this song Takatiti is emphasizing the need for change because agricultural practices that were effective in the past are no longer viable. While kanyeleng groups in the North Bank Region identified agricultural practices such as composting and intercropping as traditional practices that should be revived in order to cope with new climate challenges, in his song Takatiti emphasizes the need for new agricultural practices, such as the planting of early-maturing and drought-resistant crops such as sesame. He sings that there is a need for novel approaches in the face of climate change and growing poverty, which are directly caused by the burning of oil in the West. In this song, Takatiti frames climate change as a global problem that requires change at the local level, including changes to what people grow and also how they grow those crops. At the same time, Takatiti is drawing on this well-known kanyeleng repertoire, and specifically the song "Kolonba," which is described as a prayer for water and fertility, and using that as the basis for his messages about adaptation. In this way, the song integrates elements of continuity with traditional song practices, while also articulating the unprecedented nature of contemporary climate challenges.

Conclusion

There is a growing body of research arguing that climate change adaptation programs need to engage better with Indigenous knowledge systems, including traditional meteorology and rainmaking practices (Chirisa et al. 2018; Kwanya 2014; Marango et al. 2016; Ombati 2017). Tom Kwanya has suggested that Indigenous rainmaking practices in Kenya should be "mainstreamed" in the response to climate change in order to improve "interpretation of weather patterns [and] coping mechanism" and increase "community participation" in climate change adaptation (2014:abstract). We argue that in the context of The Gambia there is likewise a need to engage with cultural practices such as kanyeleng songs that offer insight into indigenous environmental knowledge systems and locally meaningful forms of communication and conflict mediation.

Building on recent work in ecomusicology, this research contributes an understanding of how "expressive culture becomes a resource and often a catalyst for action in settings of environmental crisis" (McDowell et al. 2021:13). Importantly, expressive cultural practices such as song and dance do not only serve as techniques of information dissemination, but they also provide a space in which people build social relationships, mediate conflicts, and negotiate tensions between disparate knowledge systems.

Our research also demonstrates a linking of environmental concerns with broader concerns about social and spiritual problems (see Dirksen 2018, 2019; McDowell et al. 2021). In our interviews, discussion of the changing climate frequently turned to fears about conflict and the abandonment of traditional and/or religious values. As one member of the Ndemban Simbing Kanyeleng explained:

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> We should not go away from our tradition. When you go away from your tradition, you are nowhere. Where you are heading to you don't know and where you leave you don't know that also. (Interview, Ndemban, January 8, 2019)

Traditional knowledge was seen as essential for understanding the past and the appropriate way to respond to the challenges that will be encountered in the future. A turning away from traditional practices and values among the youth was identified as a factor contributing to climate change, which is evident in problems such as young people engaging in cutting down trees in the forest rather than working hard in the farms as they should. Ideas about the value of tradition also emerged in songs about climate change adaptation, such as those performed by the Niumi kanyeleng group, which urge listeners to return to the practices of their traditional elders. The integration of new climate science information with traditional knowledge was seen to provide the best possible outcomes for farmers and to make that new information seem less threatening.

At the same time, the value of some traditional practices such as rainmaking songs was contested. While some kanyeleng saw rainmaking as a valuable practice consistent with their identities as pious Muslim women, for others rainmaking was an old-fashioned, inappropriate tradition that they had left behind as they embraced Islamic piety.

In short, our research demonstrates that ideas about how best to respond to climatic and environmental changes are contested; the contributions of kanyeleng performers to climate change adaptation involved the mediation of tensions between knowledge systems and between social actors with different ideas about appropriate adaptation measures and the use of scarce resources. This is important because despite an increasing emphasis on community participation (Few et al. 2007), many climate change adaptation programs remain largely top-down endeavors in which traditional communicators are tasked with delivering predetermined messages to the local community. This does not adequately account for the significance of what traditional communicators such as kanyeleng contribute. The unique social position and expertise of kanyeleng enables them to facilitate the necessary dialogue on contested topics and negotiate tensions between conflicting parties in response to the challenges presented by climatic and environmental change. Climate change adaptation processes can be enhanced through greater engagement with local knowledge and communication experts to facilitate information exchange and the development of culturally appropriate responses to climate challenges.

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Notes

1. In parts of eastern The Gambia, kanyeleng group membership is restricted to particular *nyamaaloo* (artisan) or *jongo* (descendants of slaves) groups. Other women who experience infertility may participate in kanyeleng rituals without taking on a kanyeleng identity (see McConnell 2019a). In western The Gambia, however, membership is not typically restricted in this way.
2. While Takatiti is unusual in being a male kanyeleng, increasing numbers of women are choosing to join kanyeleng groups simply because they want to perform, and not because they have experienced fertility-related challenges (McConnell 2019a).

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