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# The “Third Sector” and Climate Change Adaptation Governance in Sub-Saharan Africa: Experience from Ghana

Issah Justice Musah-Surugu<sup>1</sup> · Justice Nyigmah Bawole<sup>1</sup> · Albert Ahenkan<sup>1</sup>

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**Abstract** In spite of growing evidence of non-governmental organizations’ (NGOs) active participation in both bottom-up and top-down climate change policy negotiations and implementation, a research effort that focuses on the former barely exists. Grounded within the qualitative research approach, this paper contributes to the emerging climate policy literature by drawing on experiences from three purposefully selected non-state actors’ adaptation program in Ghana. The paper observes that through tripartite mechanisms—climate advocacy, direct climate service provision and local empowerment, NGOs significantly play a complementary role in building local adaptive capacities, especially among people who are already living at or close to the margins of survival. The paper again found that NGOs tacitly explore four interrelated “social tactics” (rulemaking, alliance brokerage, resource brokerage, and framing) to gain the cooperation of local actors for the implementation of adaptation interventions. In order to improve the performance and sustainability of adaptation interventions, the paper puts forward that NGOs should, among other things, harmonize their interventions to resonate with local interest and identity and also nurture capable project caretakers before community exit.

**Keywords** Climate change · Adaptation · Non-governmental organization · Local people

## Background and Problem Statement

The third sector [henceforth referred to as non-governmental organizations (NGOs)] in sub-Saharan Africa (SSA) is christened as a pro-poor development nucleus, ostensibly due to the chronic government inefficiencies in the region (Nega and Schneider 2014; Dicklitch and Rice 2004). Indeed, estimates show that millions of NGOs operate in the sub-region, with the majority focusing on voluntary welfare to political advocacy and direct policy implementation at the local level (Bawole and Hossain 2015; USAID 2009). Activities of NGOs in SSA directly benefit the majority of the poorest of the poor who are conspicuously left out of government budgetary allocation (Islam 2014). Being cognizance of these realities coupled with the ongoing ravaging impact of climate change, the United Nation Framework Convention on Climate Change (UNFCCC-1992) and, most recently, the Paris Accord-2015 have both placed a call on NGOs to integrate climate change adaptation measures into their development interventions. Articles 4.1.i and 7.2.1 of UNFCCC legally configure NGOs’ role in climate change adaptation.

Article 4.1.i states that all Parties shall promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations. Article 7.2.1 also states that Conference of Parties shall periodically seek and utilize, where appropriate, the services and cooperation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies.

In spite of the international statutory recognition and increasing evidence of NGOs active participation in both

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top-down and bottom-up climate change policy negotiations and implementation, a research effort that focuses on bottom-up action barely exists. Recent studies on bottom-up climate change policy responses exclude the role being played by NGOs (see, Culotta et al. 2016; Qi et al. 2008; Roberts 2008; Bulkeley and Kern 2006). Consequently, many pertinent questions remain unanswered within the emerging field of climate policy. This paper, therefore, closes this inherent gap by examining the role of NGOs in adaptation to climate change at the local level. The following research questions are asked: How are NGOs mainstreaming adaptation concerns into local development interventions; what kind of tactics do NGOs explore to gain cooperation with other micro-level institutions in the implementation of climate change adaptation interventions (CCAIs); what factors affect the outcome and sustainability of NGOs-led CCAIs. The study is essential because climate change is unequivocal with SSA having limited adaptive ability (Owusu et al. 2015). Scholars contend that multiple factors (biophysical, political, and socioeconomic) interact to worsen the region's susceptibility and limit its adaptive capacity (Connolly-Boutin and Smit 2016; IPCC 2014). Scholars show that beyond changes in precipitation and temperature, SSA is expected to witness extreme events such as droughts, floods, surges and storms with its attendant sociopolitical ramifications (Dosio et al. 2015; Raleigh et al. 2015). The study has five parts. The first part focuses on introduction with the second part dedicated to the literature and theoretical framework. The third and fourth parts present methodology and data, respectively. The final part presents conclusions and policy suggestions.

## Analytical Framework

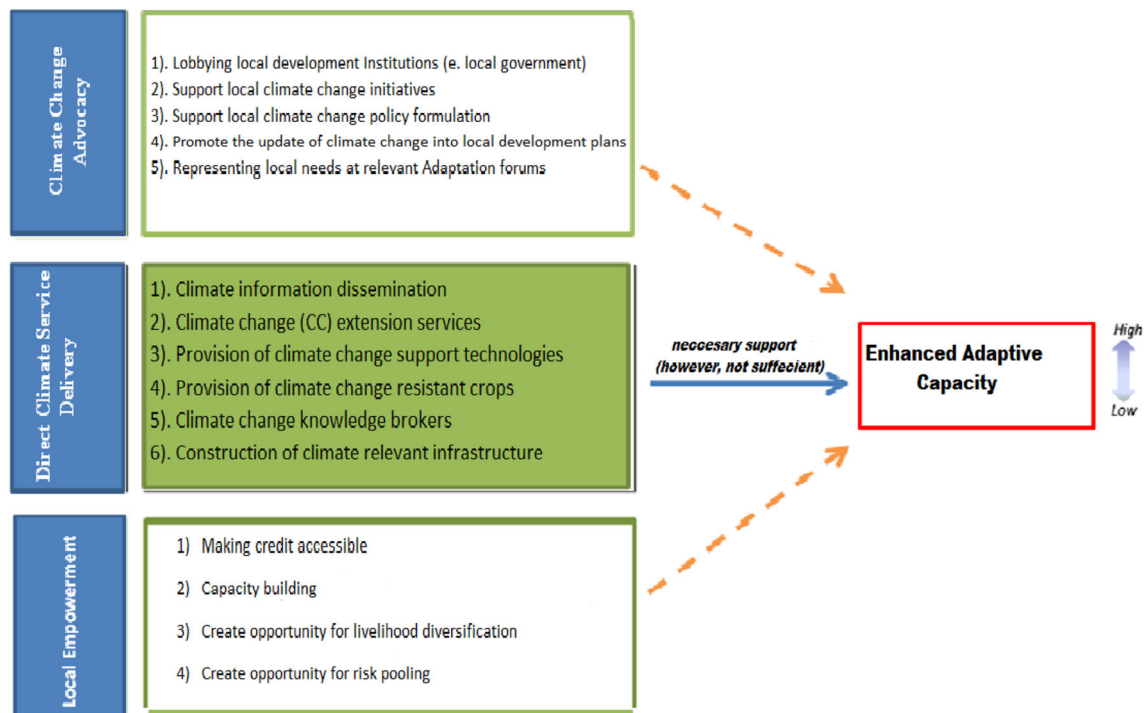
### Implications of NGOs-led Development Interventions for Adaptation

Due to the inherent complexities and contestations surrounding climate change, scholars contend that collective action is quintessential for sidestepping maladaptation (Newman 2016; Boggs 2016). Following the UNDP (2005), adaptation in this paper is defined as strategies carefully designed to moderate, cope with and leverage the impacts of "anthropocene." However, given ubiquitous government inefficiencies in many parts of sub-Saharan Africa state-driven adaptation action is likely to be insufficient (Askvik 2010). Consequently, NGOs are regarded as a complimentary arbiter for bottom-up adaptation action given their autonomy and social legitimacy (Yaro et al. 2015). Nevertheless, there is the tendency to fall into the "everything matters" trap when analyzing NGOs contribution to adaptation. Many previous studies conclude by

making long lists of vital contributions raising the need for more systematic analyses to offer a robust framework to enhance current and future discourse. This part of the article uses a configurative lens proposing a simple framework that explains NGOs role in adaptation: advocacy, climate service provision and local empowerment. Figure 1 summarizes this framework and argues that though these services are necessary but not sufficient, suggesting that NGOs play a complementary role in supporting local level adaptation.

Though there is enormous evidence that NGOs do not always act in altruistic or principal ways for several reasons (see, Bawole and Langnel 2016; Gyimah-Boadi 1997; Opuku-Mensah et al. 2007), their complimentary role to local development cannot be trivialized. For example, the advocacy roles NGOs play to unleashed essential reforms and development have long been confirmed by scholars. NGOs advocacy efforts or strategies may include but not limited to lobbying, education, awareness creation, dialogues, research, and mobilizing the grassroots (Clear et al. 2017; Almog-Bar and Schmid 2014; Reid 1999; Boris and Mosher-Williams 1998). The efforts are meant to influence specific policies, programs, projects and the processes, structures, and ideologies that shape decision making (Clear et al. 2017; Edwards 1993). The potential of any of these strategies to unleash the expected reforms is dependent on multiple factors: the spatiotemporal and socioeconomic context, the issue, the NGO involved, etc. (Szent-Ivanyi and Lightfoot 2016). As clearly depicted in Fig. 1, the adaptation literature similarly indicates that NGOs through varied advocacy mechanisms are able to induce local state agencies to integrate adaptation into local governance, allocate resources to previously neglect areas, increase awareness, etc. At the local level, NGOs set agenda for climate discourse and the uptake of adaptation concerns (Nasiritousi et al. 2016). Indeed, evidence abounds that NGOs broaden local participation in governance processes that influence adaptation given their vibrancy in exerting the necessary pressure on development stakeholders, ability to mobilize sufficient resource for reforms, and their capacity to mobilize political support at the local level (Zahran et al. 2008; Vachon and Menz 2006). Empirical evidence shows that NGOs in Tanzania and Ghana have successfully advanced reform in the mining and land sector that affects adaptation (Nelson and Agrawal 2008; [www.modernghana.com](http://www.modernghana.com)). For example, in Kenya CARE participatory scenario program has facilitated a local tripartite forum that collectively interprets seasonal climate data and develops sector-specific periodic advisories for effective adaptation (Jones et al. 2016).

Furthermore, NGOs are seen directly providing adaptation services to local people as depicted in Fig. 1. These services include climate information dissemination,



**Fig. 1** NGOs climate change adaptation approaches. *Source:* By Authors, 2017

construction of infrastructure, climate extension services, the supply of climate-relevant technologies, and serving as climate knowledge brokers (Jones et al. 2016). A study conducted in rural Zimbabwe revealed that NGOs are engaged in the construction of infrastructure (such as small-town water system, watershed facilities, and health post) which helps local citizens to adapt to environmental perturbations. Consequently, it has been argued that NGO-led adaptation services are vital in reducing exposure, sensitivity, and vulnerability to climate risk (Jones et al. 2016; Vaughan and Dessai 2014). These services guarantee the timely availability of essential climate-relevant information and infrastructure that guide coping strategies to climate variability. For example, DFID Kenya has been in the forefront of supporting adaptation service provision program in five of Kenya's most arid counties through the delivery of improved climate services such as regular weather and climate information (Jones et al. 2016).

Lastly but not least, NGOs are seen providing interventions that directly amend holding power that defines, contest and produce adaptive capacities. These include making access to credit easier for rural people, helping vulnerable groups to build income generating projects, creating opportunities for risk pooling and diversification, and capacity building through training (Yeboah-Assiamah et al. 2015). Existing research asserts that NGOs-assisted loans to smallholder farmers have enhanced farm output leading to household food security (Biermann 2009). In

many other places in SSA, farmers are supplied with climate-tolerant seedlings by NGOs. Similar evidence alludes to NGOs organizing capacity-building training on risk pooling and diversification (Nasiritousi et al. 2016). In summary, non-governmental organizations provide vital adaptation support services that mediate social and political processes among extra-local institutions that influence how local adaptation unfolds. However, their ability to do so depends on the tactic they unleashed onto the field (Fligstein 2001). Consequently, the paper adopts the Feinstein's Fields theory to illuminate the tactics often explored by NGOs to implement its CCAIs.

### “Fields Theory” and NGOs Implementation Tactics

NGOs are often confronted with a diverse but needful set of institutions in the field hence compelled to relate to them through series of complex criteria capable of creating joint action (Pressman and Wildavsky 1973). In his attempt to demonstrate how to gain collective action, Fligstein (2001) proposed the “Field theory” (FT) illustrating how “social tactics” (rulemaking, alliance brokerage, resource brokerage, and frame) of actors can strategically stimulate cooperation (Asad and Kay 2014) (see the definitions and explanation of each tactic in Table 1). FT combines both structure and agents to show how symbolic interaction can motivate others to cooperate. Using the FT, this paper suggests that NGOs leverage upon four tactics/resources to

**Table 1** Tactics, definitions, and strategies for collective cooperation between NGO and local actor (Reproduced with permission from Evans and Kay 2008; Fligstein 2001; McAdam and Scott 2005; Asad and Kay 2014)

Social skills	Definition	Examples of strategies to gain collective support and acceptance
Rulemaking	The ability of actors in one field to influence rules in another field	Create the position of legitimacy authority on appropriate adaptation mechanisms Set parameters of discussion around adaptation
Alliance brokerage Build	The capacity of actors to create partnerships that can increase brokerages' access and legitimacy within a field	Form alliance with local politicians, find a space within wider local agencies, engage with experts in another non-state field, help build advocacy networks
Resource brokerage	The extent to which actors can identify and leverage on local resources	Negotiate with LGs to elicit support for project
Framing	The ability of actors to strategically modify embedded norms to facilitate their resonance with the expected outcome	Link adaptation issues to sector-wide development goals Create new adaptation discourse akin to local collective identity and interest; adduce new collective understanding of appropriate adaptation options

effectively negotiate and harmonize interest to implement adaptation strategies. The first tactics/resources NGOs leverage on is rulemaking which focuses on the transformation of rules bounding a pre-existing field, which can give previously disadvantage groups opportunity and transform influence hierarchies (for example, see Table 1).

The second tactic is striking valuable alliances which allow NGOs to gain access to, increase their legitimacy with, and influence the decision-making calculus of needful local agents (for example see, Table 1). The third tactic is resource brokerage. Such resources can include money, technology, and information. The extent to which NGOs' CCAI resonates with micro-organizations priorities influences resource brokerage power of NGOs. NGOs can leverage on its valued resources or that of local actors to affect micro groups willingness to participate in CCAP (for example, see, Table 1). The last tactics the paper outlines is framing of adaptation ideas to resonate with local identity. Scholars argued that framing holds tremendous discursive power which could drive home cooperation (Snow and Benford 1992). The value of this tactic depends on the salience of the frame and its underlying idea, manipulability, and political worth (for example, see Table 1) (Evans and Kay 2008).

## Field Work and Research Methodology

The paper aligned its strategy and methods within the qualitative research approach which is relevant for conducting in-depth studies about specific context and perspectives of participants (Creswell 2013). In order words, the qualitative research strategy was considered vital-scientific process for this study because it offers a naturalistic approach for conducting research that relies heavily on

context, perception, and lived experiences about a phenomenon. Consequently, the case study design was used to purposefully select three NGOs-led adaptation programs from three agro-ecological zones of Ghana: coastal, deciduous forest, and northern savannah.

Before settling on the cases used in this study, the researchers undertook a pre-field survey across the three agro-ecological zones to identify ongoing adaptation initiatives spearheaded by NGOs. Upon interaction with community members and local government's (LG) staff, these cases appeared dominant at the time of the study. This influenced the researcher's decision to settle on these cases. Since it is an exploratory study, sample representativeness was not the goal in choosing which and how many NGOs to be involved in this study. However, differences in vulnerability to climate change impacts across the three regions justified the decision to select three cases from three different regions (see, Ghana's 3rd communication to the UNFCCC; Taylor et al. 2017; Wrigley-Asante et al. 2017; Dumenu and Obeng 2016). Selecting three different NGOs from the three study areas was therefore very necessary because the sociopolitical processes that mediate adaptive capacity (ecology, culture, resources, livelihood, etc.) vary across the regions. For example, the northern savannah ecological zone remains poorer compared to the other regions after years of implementing series of poverty reduction programs (Abdulai 2012). As a result, selecting three separate NGOs-led adaptation interventions across different vulnerability index areas offered a comprehensive view of the nuanced roles NGOs play and the tactics they explore to elicit partnership in micro-level climate change adaptation governance. Since the study is purely qualitative, purposefully selecting three cases would provide sufficient information needed for scientific analysis (see Creswell 2011; Guest et al. 2006).

Both secondary (scientific literature and documents from selected NGOs and government) and primary data (field interviews) were used for this study. Also, semi-structured interviews with informants and focus group discussions (FGDs) were the main instruments used to collect the primary data. Furthermore, the multiple sampling techniques—purposive and cluster sampling—were used to select 124 participants for both interviews and FGD. A purposive sampling technique was utilized to select 40 people (8 NGOs staff, 20 LG officials, and 12 opinion and quasi-community groups' leaders) and interviewed. The remaining 84 were beneficiaries who were selected with the combination of purposive and cluster sampling techniques. Out of the total beneficiaries, we conducted 30 face-to-face in-depth interviews. The remaining 54 were made up of 6 different focus groups of 9 people each. The researchers facilitated each of the 6-FGDs and were assisted by data collection assistant. Though FGDs were facilitated with semi-structured questions, they were very interactive and engaging; respondents were allowed to interact, argue among themselves, and express their opinion freely. Both informants interview, and FGDs lasted between 35 min and an hour. The data were collected between March and November 2016, during which entire program studied except AAESCC had ended. Throughout the entire period of the data collection, the researchers remained open to the information gathered from the field. The study, therefore, used an inductive data analysis method to identify the meaning that participants hold about the NGOs intervention in their communities about adaptation.

The data analysis, therefore, followed three major systematic data reduction or condensing steps. Firstly, recorded interviews and field notes were immediately reviewed after each interview for the following purposes: (1) immersion and *crystallization*, (2) identification of loop-holes in earlier interviews and effecting necessary corrections for subsequent interviews, and (3) immediately following up with respondents for (dis)confirmation of the data while researchers were still within the study area. The second step involved transcription of the entire data at the end of the fieldwork. Using Tracy's (2013) approach to qualitative data management, this stage also included a reading of the transcribed data multiple times for reflexivity. The third step included data display for the ease of coding, interpreting, and drawing conclusions. The data display stage similarly helped to identify salient themes, recurring and unexpected ideas. Subsequently, both cross- and intra-theme analyses were conducted and triangulated with the literature offering possible and plausible explanations to the study discussions and conclusions. Given the exploratory nature of the study, it does not seek to generalize the outcome. However, the nuanced experiences and

perspectives derived from the selected programs may mirror what pertains in many parts of Ghana and elsewhere in Africa. As clearly argued, qualitative studies are concerned with meaning and not making generalized hypothesis statements (Creswell 2011; Guest et al. 2006; Crouch and McKenzie 2006). The multiple sources of data used in this study enhanced confluence of evidence vital for reliability and validity of our inferences (Creswell 2013) (Fig. 2).

## Cases

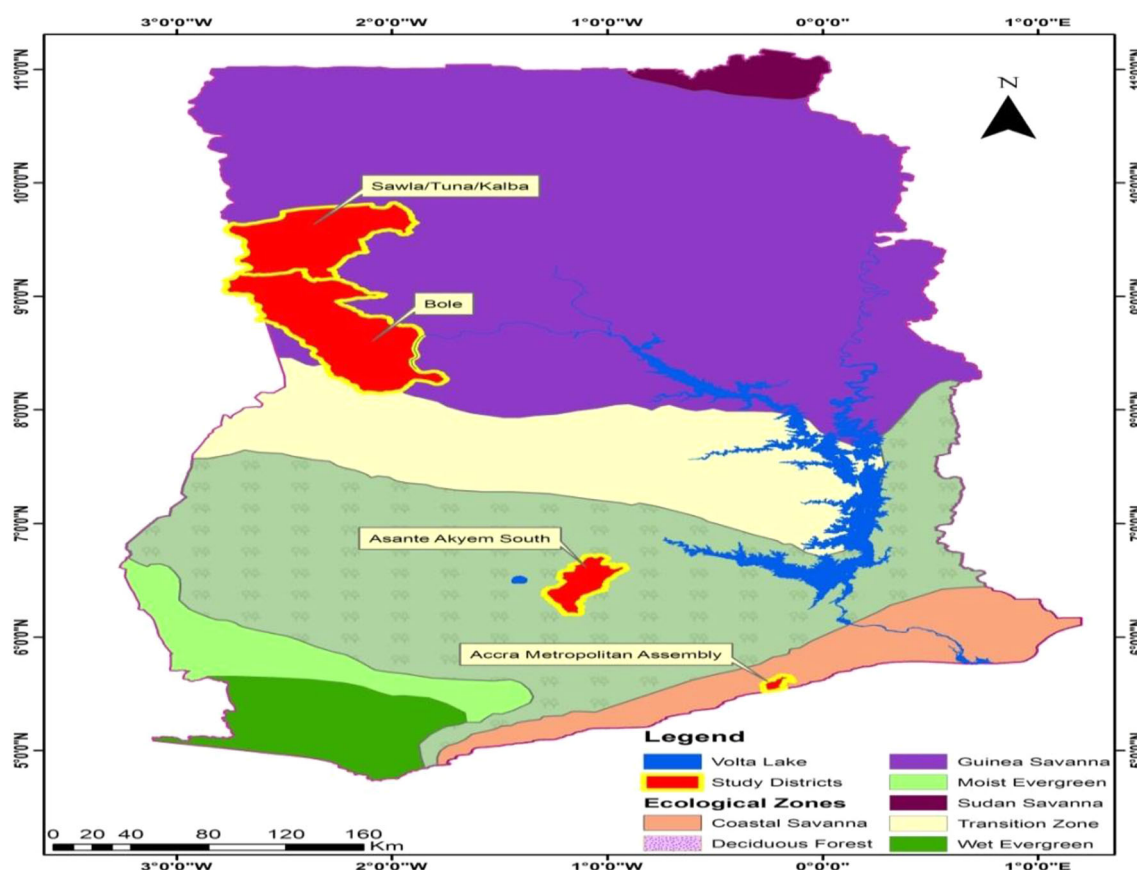
### (a) *GIZ led Adaptation of Agro-Ecosystems to Climate Change (AAESCC)*

In 2012, the German Development Corporation (GIZ) introduced the "AAESCC" program aimed at reducing climate-related yield losses in four districts in Ghana. The project was implemented in partnership with Ministry of Agricultural and ended in December 2016. The project had three components: climate change awareness creation; capacity building; and implementation of new strategies. The first part used radio stations and community durbars to create awareness on changing climate. The second part provided physical training to farmers on best farming practice in periods of unpredictable precipitation. Topics that were often discussed include agroforestry, seed production, soil water conservation, soil fertility management, row planting, post-harvest management, and bush fires preventions. The last component involves the supply of climate-related technologies (e.g., drought-resistant crops) and application of new adaptation method that was co-produced in phase two of the project. In the bid to provide the farmers with the regular seasonal weather forecast, GIZ built localized granular weather station (LGWS) at Gbogdaa, in the Bole District. Farmers were then supplied with phones pre-coded to the local LGWS which periodically update farmers on weather events in both English and local dialects. The program aimed at 250,000 farming families. The project predicts that by the end of the third phase in 2016 participants would have the requisite skills and knowledge set for adaptation. State extension officers are to remain caretakers after GIZ exits the communities.

### (b) *THP "epicenter" strategy for rural development*

Since 1995, the "Hunger Project" (THP) has operated 49 epicenters in Ghana with the aims of bettering the lives of poorer people through an epicenter strategy. This strategy is an integrated approach to rural development that brings rural poor people from a cluster of surrounding rural





**Fig. 2** Map of Ghana showing the four study areas

communities to co-create and implement development intervention (THP, Ghana, 2015). The strategy is an 8-year program that is implemented in four-phase. It is assumed that at the end of phase four (maturity stage) beneficiaries would be self-reliant (Yeboah-Assiamah et al. 2015). The first phase is dubbed community entry and legitimacy building where THP makes entry into an identified community, mobilizes people, and seeks to create positive change. This is done through recruitment and training of local animators that would propagate the vision, commitment, and action of THP. The second phase involves joint community mobilization of resources to create food bank, meeting hall, clean water source, public latrines, health center, food-processing units, classrooms, etc. During the third phase, the community continues working to address its needs in the areas of local needs (e.g., food security). Phase four is described as sustainable self-reliance period where THP makes attrition in its financial and staff support for the epicenter. For sustainability, the THP continues to monitor progress for two additional years after the end of phase

four. Monitoring is to allow a transition time for local management at the epicenter to affirm their commitment and partnerships.

(c) *RIPS-led community Adaptation projects*

In 2011, the Regional Institute for Population Studies (RIPS) with support from the International Development Research Centre commenced a two-pronged adaptation project in three communities in Ghana that are adversely affected by climate change. Firstly, these 2 years project aimed at creating climate change impact (health, food security) awareness. Secondly, it aimed at rolling out community-led adaptation strategies informed by research and co-created with the targeted constituency. Through a participatory action research strategy, RIPS was able to dialogue, disseminate, harmonized, and co-produced a bottom-up adaptation action with both local citizens and development actors. The program led to three main interventions. First is an integrated waste management project at James town which successfully led to the distribution almost 1000 waste bins. Second is the construction of fish smoking plant and storage facility at in Ussher Town with the aim of

supporting food security (fish preservation, availability, and affordability). The last project is the construction of drain and desilting of existing drains at Agbogbloshie which aims to reduce flood-related health hazards. These interventions directly employ 15 youth permanently (James Town), and 150 fish smokers and sellers (Ussher Town). Community clubs have been established in each community to run daily activities of the interventions and embark on periodic educational campaigns on climate-related hazards and individual responsibility. Just like the previous cases, RIPS climate change adaptation interventions program at the community level has three phases: community entry, climate risk profiling through research; awareness creation; community-led initiative to build adaptive capacity.

## Results and Discussion

### How Do NGOs Mainstream Climate Change Concerns into Its Development Intervention?

#### *Climate Advocacy and Climate Agenda Setting*

Awareness creation on the ramification and adaptation options of climate change is an essential step in strategizing to counter climate risk and maximize gains. NGOs have historically engaged in issue agenda setting to raise awareness on looming problems. The field results indicate that climate change agenda setting aimed at awareness creation forms the first strategic objective of the three programs studied. The majority of the beneficiaries interviewed confirmed that their first encounter with the various NGOs was through community sensitization programs that aim to create awareness on climate change and development related issues. Our data concur with Yaro et al. (2015) findings that NGOs are leading crusaders on climate change awareness creation at the local level in Ghana. The medium used for issue agenda setting and awareness creation includes adverts, radio talks, community durbars, school seminars, and climate competitions. A beneficiary confirms this:

The GIZ various radio talk show and farm visits are gradually changing the face of farming in our community. Today many people in this community are not just aware of rain fall variability but are much better position to manage it menace.

According to the NGOs awareness creation and community, dialogue on climate change is the first port of call

for preventing maladaptation. An interviewer from GIZ buttresses this point as follows:

We see awareness creation as an essential starting point for a successful implementation of climate change adaptation program. When a treatment group is not aware of its problems, it becomes extremely cumbersome for the group to accept the treatment and follow its course. This is why advocacy and awareness creation on ongoing impact of anthropogenic climate change is a critical component of our strategy to build local adaptive capacity.

Similarly, a respondent from THP also confirms that advocacy enhances adaptation. He narrated that:

We advocate for the conservation of natural resources throughout our interventions. We also advocate for the recovery and promotion of appropriate indigenous knowledge and technology that is adaptable to climate variability.

#### *Local Empowerment Through Capacity-Building Initiatives*

The capacity-building training program was evident across all the three cases. Indeed, poorer people and most local state agencies in developing countries lack the capacity to modify exposure, absorb, recover, and exploit new opportunities that may arise from changing the climate (Adger and Vincent 2005). As a result, the various NGOs CCAIs sought to simultaneously build adaptive capacities of vulnerable people and local agencies such as agricultural extension officers, management information officers (MIS), national disaster management (NADMO) staff, fire service staff whose traditional line of duty reflects climate change. Documentary evidence from THP shows over 4000 people on average received training between 2010 and 2013 on food security related issues. Interview with representative from RIPS coastal adaptation and resilience project also indicates that over 10,000 people who are most often affected by coastal erosion, floods, storms, surges, etc., have been trained on adaptation-related options across hundreds of communities. Interviews with GIZ officials corroborate this narrative.

We provide training to smallholder farmers on agroforestry, energy savings, seed production, soil water conservation, soil fertility management, row planting, post-harvest management and bush fires preventions.

An official of THP explained:



Some of our epicenters have community demonstration farms, where villagers learn composting, intercropping and other methods, like drip irrigation, to improve farm output, restore soil fertility and make the best use of scarce resources.

The training programs have enhanced poverty reduction among beneficiaries. For example, a beneficiary of THP reported that she has been able to acquire land and has started the constructing of two-bed room houses after benefiting from THP training on alternative livelihood skills and micro credit. Similarly, a farmer who is a beneficiary of GIZ's AAESCC project explained that his household nutritional level had improved dramatically because they can sell part of their improved farm output after practising GIZ's prescribed adaptation practices. One farmer expresses his joy in the following ways:

I can harvest three times more than I used to harvest after receiving training and drought resistant seeds from GIZ's AAESCC project. I think our weather information we are receiving from the granular weather station is very beneficial for planting at the right time.

These findings support the existing view that local development interventions aimed at building adaptive capacity could lead to enhancement of economic activity (ADB—Asian Development Bank, 2011) which consequently reduce poverty levels among beneficiaries.

#### *Direct Climate Change Service Provision*

Nonexistence of adequate and robust infrastructure necessary for providing an enabling environment for adaptation decision making also affect local people's ability to adapt to climate risk. The cases in this study had specific interventions that sought to empower poorer groups by building some basic social facilities such as flood drains and gutters, fish smoking plant (FSP), and localized weather stations. GIZ also distributed other technologies such as drought-resistant crops and pre-coded mobile phones to smallholder

farmers. These infrastructure and technologies provided have reported a positive impact on beneficiaries. The data gathered confirmed that many beneficiaries of the three programs have seen marginal social and economic improvement in their welfare. A beneficiary of GIZ AAESCC project confirms:

I use to harvest less than 1/5th of what I am harvesting now after planting in straight lines, using composting and planting based on the seasonal weather information I receive from the LGWS at Gbogdaa. These are new practices GIZ's reps taught us.

An extension officer in the Bole district further confirms this:

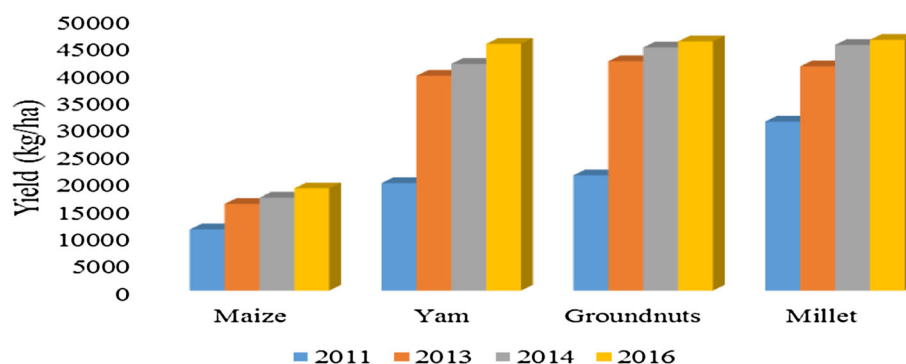
Through the GIZ's interventions outputs from the area has improved marginally over the previous years.

Regional data on crops performance in the northern region of Ghana where GIZ's AAESCC implemented it program shows that yields performance has consistently increased between 2013 and 2016. Figure 3 shows performance improvement since 2013 after 1 year GIZ's intervention.

Similarly, THP epicenter programs helped many beneficiaries to broaden their subsistence base and have been exploiting a broad range of resources by engaging in multiple trades and multiple farm fields in different locations. Scattering of far fields in areas where rainfall is unreliable and using a combination of occupations such as wage labor, animal rearing, and farming are common diversification responses to risky environments (Agrawal 2008). The beneficiary of THP explains how THP has enabled many households to diversify their livelihood options.

In this community our primary occupation is farming. But when THP came about eight years ago we no longer do farming alone. You would observe that many people are engaged in Batik, Soap production

**Fig. 3** Farm output after intervention Source: MOFA, 2017



and food processing, while others are also rearing livestock. These have been possible because of the training, credit, and supervision we receive from THP.

A beneficiary of RIPS program also intimated as follows:

I use to fish and sell to the market women at an unreasonable price- I was a price taker. But after RIPS educated and built the fish smoking plant for the community I do not only fish, but I also help my wife to smoke my harvest. The combination of the two activities has improved my households' economic condition marginally.

The paper found that the infrastructural and technological support service provided by the three cases empowered local people to adapt to climate change in different ways. The NGOs used positive discriminatory tactics to bridge power asymmetric that mediate adaptation (Yaro et al. 2015).

### **What Kind of Tactics Do NGOs Explore to Gain the Collective Cooperation of Other Micro-institutions?**

The field data shows that the selected NGOs specifically offered services that were extremely critical to their target communities. For example, RIPS used the pairwise sampling instrument to identify the most pressing need of their beneficiary constituency and tailored their services along. The FGDs established that all actors involved in each of the CCAIs recognized the importance of co-production and mutual interaction, albeit different goals and expectations. As a respondent of THP described, failure to find synchronicity with local actors can significantly affect the success of any adaptation intervention. Just like Asad and Kay's (2014) observation most of the officials argued that ensuring cooperation and constants interaction with local actors is indispensable for successful program implementation. Collective action toward adaptation can create and institutionalize new adaptation discourses after years of community exit. Indeed, RIPS official explained that, without the cooperation of local actors, the impact of adaptation intervention would be piecemeal and patchy. GIZ representative supports this view:

Local actors are rational and hence are influenced by their interest. If you don't adequately consult them and make them de-facto project owners, they could subtly or overtly sabotage the project. We currently leverage on several community resources and state agencies staff to run some of our interventions. This would not have been possible if we had gone solo.

Three local level diplomacies commonly characterized the relationship between the NGOs and local actors: NGOs to LGs/de-concentrated state agencies diplomacy; NGOs to citizens diplomacy, and NGOs to local-NGOs diplomacy. Such diplomacy/interactions were voluntary, varied, complex, and multidimensional often characterized by the need to obtain legitimacy and collective action. The NGOs use these diplomacies to initiate and implement adaptation schemes. Repeatedly, almost all the officials of the NGOs interviewed concurred with the view that NGOs CCAIs can only be successful when they build relationships with local actors and synchronize their interests with locally shared identity (Fligstein 2001). The study did not examine which of these strategies were dominant and why and the effectiveness of strategy mix. Future research may consider these important but less explored questions. Tactics explored to create alliances for CCAIs implementations are herein discussed as follows:

#### *Rulemaking: Creating Position of Authority on Appropriate Adaptation Mechanisms*

Rulemaking allows NGOs the discretion and ability to influence or change the way in which local people adapt to climate change (Evans and Kay 2008). The case of GIZ supplying mobile phones to farmers that provide them relevant weather information for informed farming decision making has inherent rulemaking tactic as argued by Fligstein (2001). GIZ was somehow able to influence the adaptation practices of smallholder farmers through LGWS and the pre-coded mobile phones supplied to the farmers informing farmers when to/or not to plant (tactfully setting the rules for planting). When an official of GIZ was asked about how they were delineating the parameter for adaptation, the response was that they were creating new social order where the local people would only plant their crops based on scientific information received from either the LGWS or the Ghana Meteorological Agency. Through the provision of this adaptation technology and constant advocacy through series of community training and radio discussions, the NGOs have somehow become the referee for adaptation practices. As GIZ official put it, we automatically assume the authoritative position on adaptation after supplying the right set of technologies and extension service to those who needed it most. An official from RIPS agrees:

If you want to change an embedded establishment, then you need to provide resources that offer an instrumental gain beyond what the current establishment offer. We can set rules for adaptation because have been able to offer some support that constrained

the people's ability to challenge the status-quo and building resilience.

### *Alliance Brokerage and Networking: The Search for Easy Community Entry Route*

Networking and alliance building is a tactical approach that allows NGOs to understand prospective fields, actors within, and strike mutual partnerships that are valuable for easy community entry. Mostly, such tactics occur throughout the life cycle of NGOs presence within a field. Though the data confirmed that alliance brokerage occurred through the setting up of project committees, supervisory team, reporting, volunteering groups for the implantation of the various CCAIs, they were nothing more than superficial engagement. This confirms the findings of Bawole and Hossain (2015) who argued that the NGOs and local actors in SSA engagement are nothing beyond tokenistic and cosmetic interaction. An NGO interviewee asserts:

Climate change is affecting the people, and therefore any NGOs that come into help are always welcome. As a result, our interactions with the local institutions are basically to announce our presence.

Despite reported cases of cosmetic engagements respondents indicated that building alliances with local organizations significantly enhances CCAIs outcome, one respondent narrated previous experiences where poverty-related program failed woefully because the right alliances had not been built. These narratives support the classical argument that suggests that the ability of primates to form alliances and networks and engage in acts of deceit enables them to gain cooperation with others (Whiten and Byrne 1997; Whiten 2017). Direct quote from NGOs' interviewee reads:

There is no doubt that district assembly representatives (DAR) and chiefs are very vital in the execution of community-level projects. The DARs are elected, and therefore can organize rally community support for a project. In the CCAI key, local actors were considered very vital for accessing first-hand information about the perception of climate change and modes of adaptation and suggest solutions.

### *Resource Brokerage: Securing Counterpart Funding*

While Bourdieu (2011) viewed resource brokerage as convertible and intertwined, this paper focuses on one form of resource brokerage—co-financing from identifiable local actors. It has been argued extensively within the development literature that co-funding is the best way to induce

multi-stakeholder cooperation which simultaneously stimulates project sustainability. It was observed that all the NGOs in some way depended on local resource tactfully pulling together local cooperation. Some officials explained that some of the local actors exhibited high degree of interest in the outcome of the projects simple because of their contributions. Interviews with THP respondents confirm that there were high level of cooperation among actors in instances where communities made direct contribution towards the construction of “epicenters” by offering in-kind resources such as land and labor. An official of GIZ concurs:

We asked for a piece of land from the local community which was release for the building of the LGWS. This would allow local people to own the project and further create collective responsibility for maintenance.

LG official buttresses this point:

There is strong partnership between the various state agencies in this district and GIZ on the AAESCC project given the fact that our staffs are serving as the extension officers to train and monitor the farmers. Unlike other NGOs operating in the district who do not depend on us for any form of resources, we have little interaction save our oversight responsibility.

However, the willingness of actors to provide counterpart funding is predicated on how CCAIs is linked to broader local interest. RIPs official explains:

If your projects run parallel with that of the local government areas of priority or what the community perceived important you are likely not to access any support from them.

Similarly, the interest of local political actors (assembly men, mayors, lobbyist) within the local political space influences the extent to which NGOs can attract counterpart funding from local state agencies. Local government official elaborated:

We have limited resources and would, therefore, support NGOs whose line of action is in tandem with local development priorities.

### *Framing: Securing Projects Legitimacy and Sustainability*

The last tactics often explored by NGOs to garner support in the delivery of adaptation service is framing. Although scholars differ in their exact definitions of “frame,” the concept refers to the definition a person gives to the situation in which human interaction occurs. Researchers argue that changing a dominant frame is a daunting task that

involves “collective framing” process in which actors negotiate for a new logic (Snow and Benford 1992). Framing can be a vital tool for dismantling embedded social norms that obstructs adaptation strategies. Framing is often tied to information processing, messages patterns, linguistic cues, and socially constructed meanings (Putnam and Holmer 1992). Fligstein (2001) contended that skilled actors (in these case skilled NGOs) can build upon existing frame from one field to another (from old adaptation strategies to those about to be introduced by the NGOs). These suggest that NGOs can transform the collective understanding about what an appropriate adaptation option is by framing their strategies to sync with broader local interest and identity (see Table 1 for example).

The primary framing focus for GIZ, THP, and RIPS involves changing embedded ideas about climate change impacts, causes, and how to adapt given the inadequacy of indigenous ecological knowledge. Respondents described their organizations’ consistent and intense work to advocate for the mainstreaming of climate change in local development plans and the need for diversification in livelihoods and income sources as an admission of framing. As a GIZ field officer narrated:

Permanent development actors like the LG must understand that climate change is real, and its impacts are felt massively. Therefore their development projects across all sectors must reflect adaptation needs. We as NGOs would exit the community, so we have to create some perception that would influence political actors’ views about climate change and required responses.

THP respondent put forward these comments:

Women can be powerful tools for community transformation, but local logics obstruct communities from accessing such potentials. As a result women empowerment forms a critical component of our advocacy. We can only drive our beneficiaries onto the path of self-sufficiency [I mean build their adaptive capacities] if we can modify some standpoint about women and give them the opportunities to participate in the households’ decision on food security, livelihood diversification, and expenditure. Existing view about women as birth machines and domestic officers are changing in areas we have penetrated.

The paper found that the framing tactics used by NGOs for implementing CCAIs occur across multiple levels of diplomacy and channels (radio talk show on climate change, community durbars, and posters). This finding is in sync with the classical theoretical perspective that suggests that framing as a “social skills” mostly used for

stimulating collective action is applicable not only to face-to-face interaction but also to mass communication (Namba 1993).

### **What Factors Affect the Success and Sustainability of CCAI?**

Within the larger development literature, the success and sustainability of NGOs-led development intervention has become a central concern due to the many reported failures and short life span of project impact as soon as the NGO withdraws from the community. Our field discussion with beneficiaries of the three cases shows a mixed result. While some believed the various CCAIs by the NGOs were and would be sustainable, others had a contrary opinion. We found that the beneficiaries widely understood the different adaptation practices co-produced with the NGOs. However, while majority were practicing, there was substantial evidence of abandonment among some groups. Per the evidence adduced from the field, four major factors likely to affect the outcome of the various CCAIs became evident.

#### *Are the CCAIs Easier to Practice?*

Evidence on the field confirmed that adaptation practices that were/are easier to practice are pursued by beneficiaries. One beneficiary of RIPS waste bin distribution project under their CCAI had explained:

After months of community awareness and waste bins distribution from RIPS, we have seen a sharp reduction in indiscriminate waste disposal into the lagoon and major drains which have significantly reduce the periodic floods that have characterised our community.

GIZ’s respondents explained:

The program is sustainable because the farmers understood the adaptation practices and they are practicing whether with/without the organisation. Most of the interventions are less difficult to practice and therefore expect the farmer not to abandoned it.

#### *Is There a Ready Market for Newly Acquired Skills?*

The HP had alternative livelihood skill development component that provided off-farm skill development to their beneficiary constituency (e.g., soap making). At the time of the data collection, some beneficiaries were utilising their newly acquired skills, while other were not. Those who have abandoned their newly acquired skills indicated that they were unable to find a market for their



service and goods. A beneficiary of soap-making training provided by HP who has abandoned her newly acquired skills (trade) for 3 years narrated:

I took loan initially when I got trained on soap making to start my production; unfortunately, retailers are difficult to come by, other buy my product on credit and fail to heed to terms of reference. Sometimes I hardly get distributors to buy my products in bulk save the few sales I do on the local market. I was frustrated with the many market constraints and therefore decided to quit and concentrate on my farm.

On the contrary, those who saw their new adaptation strategies as profitable were putting them into use. A respondent from GIZ statement confirms this assertion:

Farmers have indicated that the practices are beneficial and would want to continue.

#### *Do Caretakers Have the Necessary Capacity?*

One critical performance factor identified from the data is the ability of caretakers of the various CCAIs to provide the needed leadership when the NGOs finally withdraw. In most cases, local state agencies take over the fiscal and technical responsibility of the various CCAIs facilities (e.g., the FSP at Usher towns, drains in Abogbloshie, and the LGWS at Gbogdaa). Beneficiaries do not have confidence in sub-national agencies, which eventually become caretakers of the various projects, to provide the needed assistance to sustain the various interventions. For example, after several months of complaints about poor aeration and leaking problems related to the FSPs initiated by RIPs, the Accra Metropolitan Assembly which has the oversight responsibility is yet to respond. As a result, many fish smokers have abandoned the use of the plant. A user of the FSP echoed:

The Accra Metropolitan Development Agency is responsible for retrofitting this fish shed. Unfortunately, we have not received any response after lodging series of complaint about leakages and poor aeration.

Evidence from LGs officials itemized limited organizational and fiscal capacity and sporadic changes in central government policy focus as the reasons why they often fail to inherit and manage NGOs-led interventions adequately. These assertions affirm the central argument that fiscal decentralization is at best theoretical (Yeboah-Assiamah 2016).

#### *Is There a Convergence Between Institutionalized and Contemporary Logics?*

Cultural theories suggest that the willingness of local people to adopt contemporary adaptation practices could be held-aback by invisible hands, perhaps, by embedded ecological knowledge (Ifejika Speranza et al. 2009). In the same space of discourse, Lund and Saito-Jensen (2013) quote a treasure of scholarship arguing that ‘pre-existing social structures routinely define and reinforce relations of domination between power holders and the governed, leaving little, if any, the opportunity for collective initiatives to sidestep them. The primary local norms identified from the field interviews and NGOs program reports affecting the embracement of contemporary adaptation logics include power holders systematic domination and corresponding obedience emanating from traditional folklore, rituals, prosperity gospel, and dissipating cultural capital (see, Bourdieu’s cultural capital).

The field data confirmed that power holders clandestinely uses both hard strategies (seek submissiveness via intimidation) and soft strategies (seek submission through polite, witty, or cunning schemes) to prevent their households from participating and/or accepting contemporary adaptation practices. Regrettable, these power holdings have incredible legitimacy creating save heavens for systematic maneuverings (Adams and Hutton 2007). For instance, in the Bole and Sawla-Tuna-Kalba district, there is somewhat general believe that “holding powers” such as “Mallam”/“Mu’alim” (Muslim clerics) and the “Tindana” (Traditional African priest) are endowed with legitimate power for averting climate-related risk. Indeed, people have hitherto depended on the directives of these institutions for adaptation for decades, thereby creating intense tug-of-war with the contemporary adaptation logics spearheaded by NGOs.

Evidence of tug-of-war was narrated by smallholder farmer (she):

My husband says would only plant our crops based on the divine directives of the “tindana” and not the climate information from the LGWS.

Another beneficiary of GIZs initiatives indicated:

Many people have gotten the training but are unable to practice because of recent prosperity gospel that is surging in our communities. People are made to believe their poor yields are curses which could only be reverted by divine powers.

Evidence from GIZ 2015 report on its CCAIs showed that prayer was the third highest (21%) adaptation measures by a citizen of Bole and Sawla-Tuna-Kalba district despite 3 years of community sensitization. According to some smallholder farmers, climatic factors are natural and hence can only be regulated magic/sorcery or God.



## Conclusions and Policy Suggestions

The complexity of climate change means that relevant development actors and approaches to undertake adaptation actions are urgently needed. Given NGOs' close grassroots linkages and resource capacity, they inadvertently occupy advantageous space capable of creating the requisite enabling environment for unfolding adaptation strategies (Yaro et al. 2015). The study found that in areas where citizens are least affected by state interventions NGOs play extremely significant direct and indirect complementary role. Their direct role is self-evident in the provision of climate services that are extremely vital for adaptation. Also, they directly support bottom-up adaptation by advocating for the uptake of adaptation needs into local governance. These results reflect a dormant view in the literature, which argues that NGOs are constantly seen at the micro-level lobbying, generating, filtering, providing, and contextualizing climate information and knowledge that are particularly suitable for adaptation decision making (Vaughan and Dessai 2014). NGOs strategic combination of multifarious action for adaptation at the local level further confirms their sophistication and innovation to solving complex public problem.

For example, interviews and FGDs with study respondents revealed that NGOs rely upon series of tactics to penetrate complex fields and woo local institutions to co-create and implement adaptation initiatives. These tactics—rulemaking, networking, resources brokerage, and framing—enable NGOs to gain common consensus. The study noted that these tactics facilitate mutual relationship building and easier community entry to dialogue, propagate, and co-create appropriate adaptation strategies locally. The study, however, noted that though consensus building is indispensable for scaling up bottom-up CCAIs, the capacity of project caretakers and the invisible tug-of-war between embedded norms (i.e., collectively held informal rules that are enforced by group sanctions) and contemporary adaptation practice (new logics) remains a strategic hurdle for NGOs. The triangulated data from the field confirm that tug-of-wars of interest and power manifest profusely in CCAIs because many people depend on divine systems (prayer and sorcery) for adaptation (White 2015). Consequently, given embed values (e.g., religion, hierarchy, indigenous knowledge) as the opium of the people (see also, Marx 1844) the paper puts forward that NGOs-led CCAIs are more likely to be successful if its' "frames" resonate with the collective identity and interest of their target constituency. The paper can, therefore, conclude that the success of CCAIs does not lie in the programs, per se, but the collective cooperation across the often complex, heterogeneous, and fragmented social

structures and institutions. The paper, therefore, supports the call by O'Neill (2013) for all identifiable stakeholders—epistemic community, faithful parishes, community groups, LGs, etc., to be involved in climate change management. The paper further provides the following suggestions: CCAIs should reflect sectorial and municipality-wide goals lest it would not be adopted; efforts should be made at consensus building; nature capable project caretaker(s) before community exit; CCAIs should contain basic household mitigation practices.

## Compliance with Ethical Standards

**Conflict of interest** The authors whose names are listed above certify that they have no affiliations with or involvement in any entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript. Again, this manuscript has not been published previously and is not currently under consideration for publication elsewhere. We therefore declare that there is no potential conflict of interest before, during, and after submitting this manuscript to VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations.

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