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# Community Aspirations and Collective Action\*

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## Abstract

We propose that community aspirations defined as the preferences for goals that increase communal well-being are an important determinant of cooperation in collective action problems. This paper conceptualizes community aspirations and investigates whether the proposed measure is associated with cooperation. The second part of the paper presents the results of a randomized controlled trial that aimed at lifting community aspirations by presenting real-world examples of successful collective action. Survey and experimental data from rural Zambia indicate that compared with current situation, individuals hold optimistic community aspirations. We find some supporting evidence for a positive correlation between community aspirations and cooperation measured using experimental and survey data. Exposure to the examples of cooperation increases cooperation, but has a negative effect on community aspirations. Instead, we find that the mechanism could be through a change in the perceived norm of cooperation.

**Keywords:** aspiration, cooperation, role model, public good, social norms, development

**JEL Codes:** C93, D70, D91, O12

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# 1 Introduction

Collective action plays an essential role in development. Communities that manage to self-organize can avoid poverty traps and achieve sustainable development. For example, communities that set and enforce rules on the management of natural resources can avoid depleting natural resources, commonly referred to as the tragedy of commons (Ostrom, 1990; Vélez et al., 2020). Agricultural cooperatives can facilitate farmers’ access to markets, decrease credit constraints, and facilitate the diffusion of new technologies (Valentinov, 2007; Fischer & Qaim, 2012; Wollni & Zeller, 2007). Despite the potential benefits of collective action, not all communities succeed in self-organizing and in establishing stable processes of collective action.

This paper puts forward a new explanation of why collective action fails. We propose that cooperative behavior depends on the goals and desires set for community well-being. We refer to those as *community aspirations*. Consistent with Sen’s (2001) idea that freedom is both the end and a means to development, we conceptualize community aspirations as a multidimensional notion that includes five dimensions: political and economic freedoms, social opportunities, transparency and protective security. Our conjecture is that when individuals experience a low level of aspirations for the well-being of their community, they would lack incentives to cooperate in collective action problems.

Poverty can constrain aspirations (Dalton et al., 2016; Appadurai, 2004). Aspirations are formed by the lives and achievements of individuals that one can observe. Individuals living in poverty and a polarized society might lack the resources and examples to form higher aspirations (Appadurai, 2004; Ray, 2006). Low aspirations thus can lead to low cooperation, which can ultimately lead to pessimistic aspirations. Opening people’s cognitive window by showing an alternative view of what they could achieve can help them escape the trap and achieve economic development (Ray, 2006).

The objective of this paper is twofold. First, we develop the concept of community aspiration and present an empirical measure. We assess the validity of the proposed measure by exploring its correlation with cooperation in the field. Second, we investigate whether giving examples of successful collective action cases can positively influence community aspirations and cooperation levels. Participants in the treatment group watched one of two videos depicting villages who cooperated successfully in collective action problems. The literature discusses distinct ways of presenting role models in order to foster behavioral change. While the literature on educational entertainment posits that the educational content should not be made too obvious (Bandura, 2004; Guyon & Huillery, 2017), other studies have found that prescriptive messages are effective in behavioral

campaigns (Cialdini, 2003). Our study compares two different ways of presenting role models. The first video used a narrative describing living conditions in organized communities; and the second a prescriptive frame explicitly explaining how organized communities can achieve better living conditions. We compare cooperation and community aspirations in the treatment videos with a control group that is not exposed to any video.

The analysis is based on survey and experimental data with 749 individuals living in 43 villages in Zambia. To capture the level of cooperation we allowed a sample of participants to make real contributions to a local public good that is common in Zambia. Participants could contribute part of their endowment of ten Kwacha (about 0.78 Euro<sup>1</sup>) as seed capital for new savings groups. The amount contributed was doubled by us, generating a social dilemma in which collectively it was better to cooperate, but individually it was better to retain the endowment.

The results of our study indicate that individuals hold optimistic aspirations. Compared with the current level, participants aspire that community welfare will be six standard deviations higher. Confirming our hypothesis, we find that more optimistic participants report more frequent participation in collective workdays. Yet, no differences are found on other cooperation indicators such as contributions to the treasury or value spend in village activities. The field experiment results indicate that contributions to the savings group are on average higher among villages exposed to the narrative video and the prescriptive video than those in the control group. Using individual measures, we find that participants who watched the narrative video report higher contributions compared to participants in the control group. Yet, this does not seem to be due to changes in community aspirations. Robustness checks indicate that the results are consistent for some measures of community aspirations.

Our contribution to the literature is the following. To the best of our knowledge, we are the first to conceptualize community aspirations and develop an empirical measure that builds on Bernard et al. (2014) validated instruments on individual aspirations. Previous research on aspirations has focused mainly on the relation between individual aspirations and wealth (for an overview see La Ferrara (2016)). Second, we contribute to the literature on the determinants of collective action by analyzing the role of community aspirations in the decision to cooperate in a public goods setting. Earlier studies on aspirations considered how collective action influences individual aspirations (Ray, 2006; Mojo et al., 2016).<sup>2</sup> Yet, these studies have not investigated how aspirations affect

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<sup>1</sup>The exchange rate at the time of the experiment was around 12.81 Kwacha equivalent to one Euro.

<sup>2</sup>It has, for instance, been argued that groups can influence individual aspirations by their ability to (1) share information and experiences, (2) credibly share information to external agents and thereby induce social change, and (3) by their ability to coordinate actions (Ray, 2006). Empirical evidence

collective action. We contribute to the behavioral economics literature by including a new concept in the study of pro-social behavior. Empirical evidence largely supports the view that individuals behave as conditional cooperators increasing contributions as they expect higher contributions of the peers (Keser & Van Winden, 2000; Fischbacher et al., 2001). Community aspirations refer instead to imagining and aiming at realizing higher communal welfare.

Our paper also relates to research considering how exposure to role models through media affects attitudes and economic behavior (Chong & La Ferrara, 2009; Jensen & Oster, 2009; Paluck, 2009; Paluck & Green, 2009; La Ferrara et al., 2012; Banerjee et al., 2019). In particular, our paper closely relates to studies that have experimentally examined the effect of role models on aspirations and behavior. For instance, Beaman et al. (2012) showed how a random allocation of political positions reserved for women in Indian village councils reduced the gender gap in aspirations for young adolescents and their parents and eliminated the gender gap in educational outcomes. Showing videos of successful individuals from similar backgrounds to smallholders in Ethiopia was found to increase individual aspiration levels and changed the treated individuals' investment behavior compared with those in the control group half a year after the screening (Bernard et al., 2014). Another experimental study conducted with secondary school students in Uganda revealed that a role model movie changed educational outcomes (Riley, 2018). The author found that students from the treatment group were less likely to fail mathematics in the national exam than students from the control group. We extend that research to consider whether communities can serve as role models to promote cooperation.

Lastly, our paper also relates to literature in psychology on hope and utopian thinking and its role in collective action (Braithwaite, 2004; Greenaway et al., 2016; Fernando et al., 2018, 2019; Badaan et al., 2020). Greenaway et al. (2016), for instance, analyze whether hope, defined as a positive emotion directed at the future and the wish to change current states of the world, is related to intentions to engage in collective action to support people in an out-group. Using survey data they find that hope correlates with intentions to participate in political protest among respondents in the United States and in the Netherlands. The study by Fernando et al. (2018) provides evidence that utopian thinking – imagining ideal or better societies – is correlated with increased intentions to change the current situation. Imagination and a positive evaluation of an ecologically friendly future has also been shown to be associated with higher contributions to charity (Fernando et al., 2019). Compared to this literature we consider how the level of aspi-

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shows that cooperative members have higher aspirations for income, education, and assets than non-members (Mojo et al., 2016).

rations for one's community is related to experimental measures of collective action in a middle income country.

The paper is organized as follows: Section 2 introduces the conceptual framework explaining how community aspirations affect cooperation. We present our approach to measuring community aspirations. Section 3 explains the empirical strategy. In this section, we explain the experimental design and procedures used in data collection. The results are presented in Section 4. First, we give an overview of community aspirations and examine its relation with cooperation. We then present the results of our field experiment. Section 5 discusses the results and section 6 concludes.

## 2 Conceptual Framework

Recent work in development economics focuses on aspirations. Aspirations are the set of goals that individuals hold for the future (Bernard et al., 2011). The common use of the concept of aspirations in economics entails several attributes. First, aspirations are goals that lie in the distant – and not in the near – future (Bernard et al., 2011). Second, aspirations are different from hope as the former require agency to accomplish the goals (Lybbert & Wydick, 2018). Lastly, aspirations are different from expectations. Expectations refer to the belief in potential future outcomes, while aspirations are the preference for specific outcomes (Bernard et al., 2011).

In the theoretical models, aspirations are the relevant items in the choice set that motivate individuals' behavior (Bernard et al., 2014). A higher aspiration increases the expected benefit of an action promoting higher effort. Yet, if the difference in the standard of living that is aspired to and the standard of living that one already has is too small or too big, investment effort would be low (Ray, 2006).

The existing economic literature has focused on aspirations that entail personal goals such as income, education or social status. For instance, aspirations have been related to educational investment, educational attainment and school enrollment (Beaman et al., 2012; Bernard et al., 2014). Other studies found that aspirations predict savings, use of credit, investment and business expansion (Bernard et al., 2014; Macours & Vakis, 2014; Janzen et al., 2017; Lybbert & Wydick, 2018; Dalton et al., 2018). We propose that the concept of aspirations can be extended to account for preferences for goals that increase community well-being and have a public good nature. We refer to those preferences as community aspirations.

We adopt Sen (2001)'s conceptualization of development and consider that well-being



depends on the freedoms that individuals enjoy. He proposes that freedom of choice is a multidimensional concept that includes five dimensions: political freedoms, economic facilities, social opportunities, transparency guarantees, and protective security. Political freedom is defined as the possibility to participate openly and without coercion in decisions that affect the community such that citizens enjoy the freedom of expression and are protected from abuse of power (Bollen, 1986). Decisions are guided by democratic principles where the majority of citizens participate in decision making. The most commonly used measure of political freedoms is the Index of Political Rights which accounts for freedom of speech, freedom of religion, individual economic choice, freedom of association, freedom of assembly, violence and crimes, freedom of movement, and women's rights (Abadie, 2006; Krueger & Malečková, 2003). In our analysis, we capture political freedom by considering the aspirations regarding the right of assembly. The indicator variable that we use is the number of times per year that villagers would like to hold open meetings to discuss community issues.

There is a well-established tradition in economics that associates welfare with freedom of choice. For any two choice sets that allow the individual to choose the most preferred element, the one containing more choices would receive a higher ranking (Gravel, 1994; Pattanaik & Xu, 1998; Puppe, 1996; Sen, 1991). The dimension of economic facilities therefore has been operationalized as the possibility to live a decent life outside poverty and deprivation. While the Human Development Index (HDI) measures this dimension by income per-capita (Anand & Sen, 1994), the Multidimensional Poverty Index (MPI) considers household standard of living (Alkire & Santos, 2014). At the community level, this entails access to water, sanitary services, electricity and good quality of housing. We measure this dimension asking the aspirations regarding the number of households in the community with good housing conditions (made of red brick, burned brick or asbestos and with iron sheets on the roof) relative to the estimated number of households in 10 years.

Freedom of choice requires that individuals are capable of deciding. The economic opportunities and political liberties enhance this capability, but also access to public education and health services. The HDI, considers for example, the life expectancy at birth and expected and mean years of schooling (Anand & Sen, 1994). The MPI, on the other hand focuses on child mortality, under-nutrition, school attendance and mean years of schooling. As it is difficult to imagine that households would want fellow community members to be deprived of any of this dimensions, we used an alternative measure that is likely to have more variability among respondents. We measure social opportunities as the number of minutes individuals aspire children to travel to reach primary school.

Transparency warranties refer to the possibility to live a secure life where individuals can trust the government and fellow citizens. The Index of Economic Freedom, measures this dimension as the degree of a country’s legal protection of private property rights and degree of enforcement of those laws and the prevalence of corruption (Miller et al., 2016). Considering that a key component in providing security is the enforcement of norms, we proxy this dimension as preferences for access to police protection. We ask for the aspired number of security guards relative to the population in 10 years.

Access to protection from a social security net confers individuals the support and protection that wars, epidemics, and natural disasters can cause (Dercon, 2005; Platteau, 1997). We proxy the dimension of protective security as aspirations regarding the proportion of the population having access to support from the social network in case of need. Protective support is also manifested as contributions to community public goods. Therefore, we also consider a measure of aspired contributions to the village.

In a community context, attaining the five dimensions of freedom requires investment by individuals that ultimately benefit other people in the community: *Political Freedom* entails that each individual must invest time to hear the other’s opinions and concerns. Further, the dimension *Economic facilities* has characteristics of a public good, as making resources available to the village network creates positive externalities (Coleman, 1988). *Transparency* and *Protective support* also have the properties of a public good since villagers (in Zambia) themselves are responsible for the organization of village security guards and solidarity networks. Further, (Zambian) villagers often provide labour and materials for the construction of the nearest school, benefiting (mostly) other villagers.

## 2.1 Collective Action and Community Aspirations

In a similar way in which aspirations for personal goals motivate effort, we advocate that cooperation depends on community aspirations - the goals for the common welfare-. The causal link between aspirations and cooperation is depicted in Figure 1.

There is a three stage process by which community aspirations affect cooperation in collective action comprising (1) imagination, (2) evaluation and (3) action. Imagination is the component in which community aspirations are formed (Appadurai, 2004). Cognitive and non-cognitive skills might influence the ability to imagine a different communal future. Recent research shows that intelligence, executive functions and automatic associative processes correlate with creative performance (Silvia, 2015; Beaty et al., 2014; Benedek et al., 2014). Aspirations can also be considered a social construct. Appadurai (2004) argues that aspirations are determined largely within a given community as

a system of shared ideals. Previous experiences of oneself and others in our cognitive window can influence the propensity to aspire (Ray, 2006).

Non-cognitive factors such as income, political and social constraints can also affect the imagination. For example, Appadurai (2004) considers that poor and marginalized people are likely to have a weak capacity to aspire as they lack the resources and opportunities to train this capacity exploring how aspirations and outcomes are connected. Additionally, a large aspirations gap, the difference between the standard of living one aspires to and the present, can create disincentives to provide effort (Genicot & Ray, 2020). Greater equality therefore, can yield higher aspirations, incentives to provide effort and growth (Bogliacino & Ortoleva, 2015).

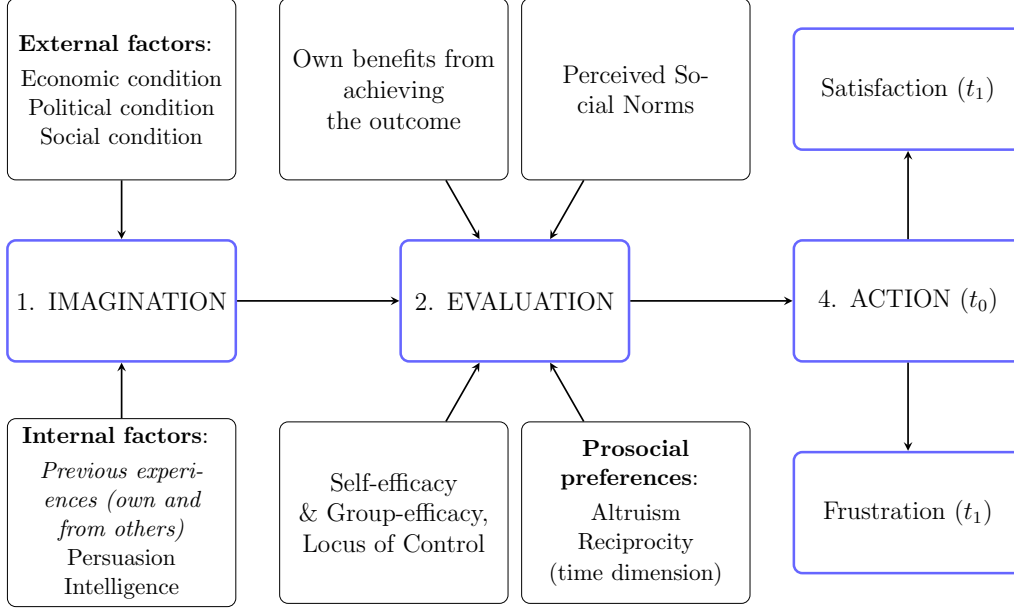
After an individual has formed a community aspiration and set goals for the community welfare, she goes over an evaluation stage in which a decision is taken on whether to act towards the imagined goals. In *Stage 2: Evaluation*, several factors determine the costs and benefits an individual attaches to following specific community aspirations. First, we consider that collective action entails a strategic interaction setting, as the decision to cooperate is based on the expectation of other's people behavior (Keser & Van Winden, 2000; Fischbacher et al., 2001). The perceived norms on cooperation describe whether cooperative behavior is perceived to be valued in the community one lives in. Second, we propose that altruistic preferences will lead to a higher perceived benefit of investing resources to attain community aspirations. The third factor that affects the evaluation is beliefs in the efficacy of one's collective, so-called group efficacy beliefs increase the likelihood that an individual assesses the attainability of the aspiration.

The last component of our framework is called *Action* and denotes the actual investment of resources to attain the community aspiration. An action could take place at many points in time confronting the individual to decide whether to stick to pursuing the goal. Executive functions as the capacity to exert self-control and flexible thinking can determine whether the action is sustained over time and the goal is successfully reached. Finally, an individual assesses the attained state with the aspired one and is satisfied if the reference point was achieved and frustrated in case it was not met (Genicot & Ray, 2017).

Community aspirations can be affected by exposing individuals to successful examples of collective action. Exposure to village role models directly affects imagination by expanding an individual's aspiration window. In addition, exposure to role models indirectly affects the evaluation by magnifying the perceived benefits and changing the perceived norms of cooperation (Blair et al., 2019; Tankard & Paluck, 2016). Locus of control

and group-efficacy beliefs can also be raised by successful experiences by others, such as by observing how a role model succeeds through his/her own work (Bandura, 2012). Exposure to village role models is therefore expected to increase cooperation.

Figure 1: Conceptual Framework



## 2.2 Measurement of Community Aspirations

Community aspirations have not been conceptualized and thus also have not been measured before. We therefore base our measurement strategy on existing instruments of individual aspirations. Distinct approaches to measuring individual aspirations have been proposed. For instance, aspirations are measured with questions on minimum income (Stutzer, 2004; Knight & Gunatilaka, 2012), positive attitudes and depression (Macours & Vakis, 2014), as well as on the desired education level, desired age of marriage and desired occupation (Beaman et al., 2012). We use a method similar to the ones applied in Beaman et al. (2012) and Bernard et al. (2014). The latter study used measures from Bernard & Taffesse (2014), who tested the reliability and validity of the questions on individual aspirations in the field. We adapted the survey questions to fit community aspirations and to our field context.

Community aspirations entail five different dimensions. Table 1 presents the indicators we use for each of the dimensions. We selected the indicators based on the following criteria. First, they should be understood by the respondents and be feasible to compare across communities. We therefore chose indicators that can be found in the local context (derived through our pilot study) and where participants easily understand the best and

the worst level. Further, we chose indicators based on whether they have sufficient variation. This excludes indicators where participants would always want 100 or 0 percent (such as life expectancy or infant mortality). Also, respondents should be able to modify them at the local level such as the number of village meetings instead of variables that determine political freedom at higher levels of authority (such as federal institutions). For each dimension, we first asked respondents about the current level so that individuals have a reference level of actual conditions in their community. Then, we asked the level they aspired to have in ten years. Finally, we asked for the level they expected to reach in this time window. To convert some of those measures into shares, we also asked for their population estimates in 10 years.<sup>3</sup>

For obtaining the community aspiration index, we standardize the responses for each dimension using the mean and the standard deviation of the control group and aggregated them giving equal weight to each dimension. Our community aspiration index  $A_s$  is the following:

$$A_s = \sum_d \left( \frac{a_i^d - \mu_{dc}}{\sigma_{dc}} \right) \quad (1)$$

where  $\sigma_{dc}$  is the standard deviation and  $\mu_{dc}$  the sample mean from the control group  $c$  for each aspiration question from dimension  $d$ .

To measure the individual aspirations index,  $A_i$ , we included questions on the level of education that they would like their youngest child to achieve, how many goats and cows they would like to have and how big they would like their plot to be in ten years.

As self-efficacy and locus of control are argued to be determinants of aspirations (Bandura, 1977) and have been found to correlate with individual aspirations in empirical studies (Wydick et al., 2013; Bernard et al., 2014), we also included a questions on locus of control and individual village efficacy belief.<sup>4</sup>

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<sup>3</sup>Outliers in the population estimates were replaced with the mean values.

<sup>4</sup>We took one of the question Bernard et al. (2011) use to measure locus of control: "Please tell me with which of the two statements you agree more: a) 'To be successful, above all one needs to work very hard.' b) 'To be successful, above all one needs to be lucky.'" (p. 7). Self-Efficacy is measure as "Do you think people like yourself have influence in making this village a better place to live?"

Table 1: Community Aspiration Indicators

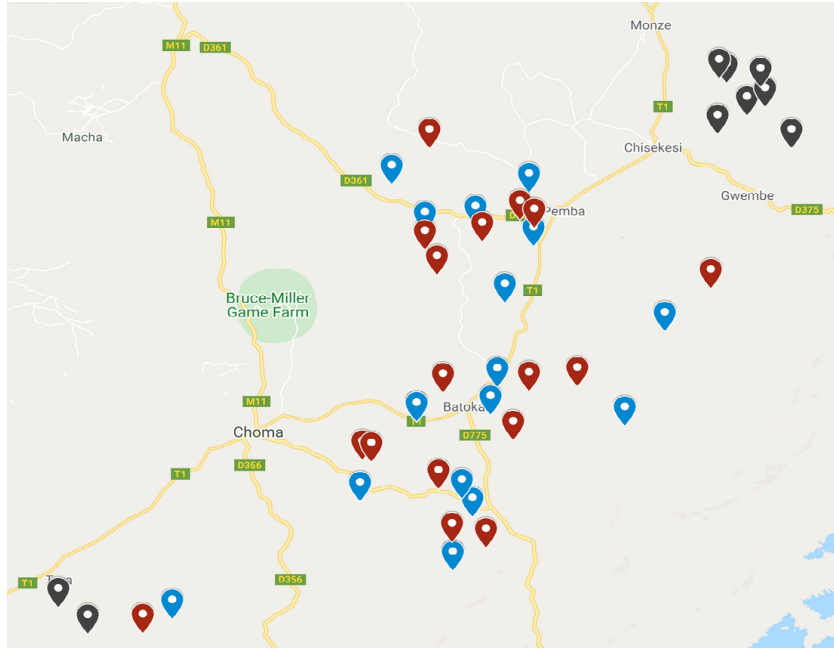
Dimension	Description
<i>Community aspirations</i>	
Political Freedoms	The number of times a month he/she would like villagers to join for a village meeting or celebrations
Economic facilities	The share of households in the village he/she would like to have very good housing conditions
Social opportunities	The number of minutes he/she wants students from their village to walk to a primary school
Transparency	The share of the population they would like to have in their village as policemen/-women/voluntary guards
Protective security	The Kwacha amount they would like each villager to contribute to village projects on average in a year
	The share of households he/she would like to get supported in case of need
<i>Individual aspirations</i>	
Education	Level of education that they would like their youngest child to achieve
Wealth	Plot size
	Number of cows
	Number of goats
<i>Other dimensions</i>	
Locus of control	To be successful, above all one needs to work very hard
Village efficacy	People have influence in making this village a better place to live

### 3 Empirical Strategy

To assess the role of community aspirations in collective action, we collected survey and experimental data in rural Zambia in summer 2018. Two localities were selected for the study. The first locality are villages in Southern Province, where we collected lab-in-the-field data on cooperation. We use these villages to be part of our control group. The second locality comprises also villages in Southern Province located left and right of the main road (see map in Figure 2) in which we conducted our field experiment.

Below we present the experimental design, outcome measure of cooperation, hypotheses, and procedures.

Figure 2: Location of Study



*Note:* The red and blue pins denote the location of the treatment villages. The grey pins show the control villages. Source: Own data.

### 3.1 Experimental Design

The stages of our intervention can be found in Figure 3. Our experiment uses two treatment conditions and one control group. In **Stage 1** participants in the treatment group watched one of two videos showing examples of communities that were successful at self-organizing in the Democratic Republic of the Congo. In **Stage 2**, they decided how much they wanted to contribute to a real public good: a savings group. Participants in the control group did not watch any video and started directly in **Stage 2**. A sample of participants completed a survey where we measured aspirations and obtained information on socioeconomic characteristics (**Stage 3**). After completion of the survey, we paid the participants the survey fee and screened another video that explains how savings groups work. We describe the content of the treatment videos and design of the field experiment in more detail in the following.

Figure 3: Experimental Design



### 3.2 Treatment Videos

For the intervention we used already existing videos created within the *Dimitra Project*, a participatory communication project on gender and rural development from the Food and Agriculture Organization of the United Nations (FAO). The original versions are freely accessible via YouTube.<sup>1</sup> We used sequences of two videos (*Community Mobilization*, *Food Security and Nutrition*) and edited a new video with a total duration of 11 minutes. Both treatment videos used the same images, but they used different scripts dubbed into the local Zambian language (*Tonga*) and displayed English subtitles.<sup>5</sup> The screenings either took place at a house, a communal space or at a school in a village. We projected the videos onto a screen with a projector that was powered by a generator.

Participants in the treatment group watched a video depicting the positive outcomes of *Dimitra Clubs* in rural areas of the Democratic Republic of the Congo. We focus on the effects of the clubs on development and hence we substituted *Dimitra Club* with *Village Club*.<sup>2</sup> The village clubs comprise men and women who self-organized into groups to work actively in the development of their community.

<sup>1</sup><https://www.youtube.com/playlist?list=PLzp5NgJ2-dK6OBbZpPuTMn7wSrcdUE0I>

<sup>5</sup>The video scripts can be found in the Appendix.

<sup>2</sup>The logo of the FAO was kept in the video.

The first video, village life video (VL video), is narrative and describes the life in rural communities in Congo. During the screening participants observe sequences where the villagers work together in road maintenance or hold community meetings. While the participants see improved living conditions in the area, the video does not provide information that these outcomes can be attributed to collective action. The narrator and characters only talk about villager’s source of income, diet, and the geography and climate of the villages’ locations.

The second video, collective action video (CA video), explicitly discusses how the community’s living conditions can improve when the community cooperates in solving collective action problems. These true stories are told by a narrator and by the villagers themselves. The community members report their experiences of how the clubs positively influenced their lives (e.g., nutrition improved or their income increased). We showed images of villagers sitting in a club meeting, while the narrator explained how the groups facilitated collective action and increased social cohesion. It also includes a short sequence where a village chief expressed his satisfaction with the clubs and an agricultural inspector reports observing more active community participation.

The impacts of the intervention are measured as the difference in community aspirations and cooperation in a real public good between the treatment and control groups. Next, we explain the measure of cooperation we used.

### **3.3 Cooperation Measure**

To measure cooperation, we employ a one-shot n-public goods game. Each participant was handed out an envelope with ten Kwacha in ten one Kwacha coins. Subjects decide how much of this endowment they would like to invest in a real village project, where the amount contributed is multiplied by two.

The project was seed capital for all newly formed savings groups. Savings groups are common in rural Zambia, with 73 percent of our sampled villages having at least one savings group. The use of this public good has the advantage that it enables us to measure the video interventions’ short-term (contributions) and long-term effects (savings group growth).

The participants were informed about the game structure in the experimental instructions, which were read out in the local language in front of the whole group (see the Appendix for the English version of the instructions). At the beginning of every session,



a research assistant read out general instructions, which included, among other things, that participation is voluntary, decisions are anonymous, drop-out of the game is possible at any stage, questions can be asked to the research assistants in private and that there should not be any discussion in the group about the intervention and the game (see the Appendix for the English version of the general instructions).

After the experimental instructions were read out, participants were given the envelopes and were asked to wait at a pre-specified place (usually in a shaded area next to a building) until they were given further instructions. Participants were asked to put the Kwacha amount for the village project in a paper box that was installed behind another building. The rest was either put into their pocket or in their Chitenge (the traditional gown of women). The team of research assistants made sure that only one participant at a time was going behind the building in order to assure that the contribution decision was private. To rule out experimental demand effects, we also did not write ID numbers on the envelopes, so that the decisions were completely anonymous. The other participants, who were waiting to be called, were instructed not to communicate with each other during the waiting period to prevent consultation.

Once everybody made their contribution decision, a research assistant, village headman, village treasurer, village secretary (village committee) collected the box and counted the money invested in the village project. Village committee members were asked to be present for the counting for credibility reasons. Meanwhile, the rest of the research team already started some smallholder interviews. At the end of the interviews, the village treasurer announced the total contributions to the whole group. We added the same amount of money and reminded the group that the village treasurer would be distributing the money equally among the newly established groups. We proposed that they meet a week from our visit to discuss how many groups they would like to form. Even though savings groups are not uncommon in the region, it was expected that not everybody is aware of how savings groups work. Therefore, we showed another video which explained how savings groups are established before we continued the smallholder interviews. We further handed out three documents to the village leaders, including the same information shown in the video and some examples of accounting and templates for them to use later.

### **3.4 Hypotheses**

We argue that community aspirations affect the incentives to cooperate in collective action problems. We expect that individuals who hold more optimistic aspirations will contribute more to the public good.

*Hypothesis 1:* Community aspirations are positively correlated with cooperation in collective action problems.

Community aspirations are expected to be influenced by an individual’s cognitive window. We hypothesize that individuals in rural areas who have limited access to examples of villages who do ”better” than themselves have low community aspirations for their village. By showing examples of communities that succeed at organizing collective action, a role model video can lead to a change in people’s mindset on the possibilities that can arise by coordinated action and thus raise aspirations. This reasoning is in line with the argumentation of how a role model intervention could have changed individual aspiration and future oriented behavior in the study of Bernard et al. (2014). We expect that a video that shows examples of successful collective action (*imagination stage: previous experience of others*) will increase community aspirations, and perceived social norms on cooperation, as individuals generalize from the behavior of the role models to that of their village (Blair et al., 2019). We expect that the role model intervention also has an impact on actual collective behavior: By setting higher aspirations for one’s community, individuals also invest more into collective action.

*Hypothesis 2:* The screening of a video that shows successful examples of collective action by similar individuals increases community aspirations, perceived norms of cooperation and increases cooperation.

We expect that the frame used to depict successful examples of collective action will influence the message’s effectiveness at changing community aspirations and cooperation. It has been shown that messages that include prescriptive as well as descriptive content were more successful in fostering pro-social behavior compared to descriptive messages alone (Cialdini, 2003). We thus expect that prescriptive messages that explicitly highlight how cooperation can affect collective action will be more effective at changing community aspirations and promoting cooperation.

*Hypothesis 3:* The collective action video that depicts how village groups can change community welfare is more effective at changing community aspirations and promoting cooperation than the village live video.

### 3.5 Experimental Procedures

For the randomization we made use of villages lists with information on the location, name and population size of the villages in Southern Province, given to us by the Zam-

bian Central Statistical Office (CSO) in Lusaka. We selected villages with 70 to 270 adult inhabitants that were located within 20 kilometers (right and left) of the main road.

Before we conducted the intervention in every village, we visited each village’s headman to ask for his permission. We informed him about our research project, without specifying the exact measures, and the time the study would take us in his village. A letter from a Zambian governmental agency that states their support to our research was also presented. Having the village headman’s consent, we asked for his assistance in the recruitment of the villagers. We communicated that we need as many people as possible for our study. Setting no limit to the number of participants was important to reduce selection bias. Further, we emphasized that only people can participate in the study from the targeted village and are above the age of sixteen.

In total, we collected data from 45 villages: 8 control villages, 18 in the village life video condition and 17 in the collective action video. We formed village pairs that were within a five-kilometer radius. The pair of villages were visited on the same day, but were assigned to different treatments.<sup>6</sup> On average, 40 villagers came to each session. The minimum group size was 18 and the maximum was 78. In cases in which there was not enough space in the room, we did multiple rounds of screenings (maximum of three) to ensure that all participants in the session were exposed to the same treatment. Besides, in each session, we randomly chose twenty individuals to answer a survey. Participants in the survey received five Kwacha as an incentive. The survey contained several questions to measure individual and community aspirations and asked control questions on socio-economic characteristics of participants as well as perceived social capital in the village. The village headman answered a village survey on existing public goods in the village.

## 4 Results

Our data set comprises survey information from 749 individuals in three treatment conditions (145 participants in the control, 310 in VL Video and 294 in CA video). Out of the participants in the control group 38 reported their contributions to a real public good. The rest participated in a public goods game in the lab.

The socioeconomic characteristics of our sample are presented in *Panel A* in Table 2.

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<sup>6</sup>We have one village more in the village life video compared to the collective action video group as in one village appointment it turned out that the original village documented in the CSO data is now made up out of two.

Participants are on average 38 to 44 years old, have completed 7 years of education, own 5-8 hectares of land and have lived in the village for 26 to 30 years. More than half of the surveyed participants are members of at least one group and use a mobile phone on a daily basis. Respondents participate in village work 3 to 5 times a year and report to have average spendings of 217 to 439 Kwacha for village activities in a year. General trust in fellow villagers is on average quite high with values between 3.12 and 3.34 (out of 4). The last column reports the p-value from a joint orthogonality test of the treatment arms. The results indicate that our randomization strategy worked for most of the variables.

Table 2: Summary Statistics by Treatment

	(1) Control	(2) Village Live	(3) Collective Action	(4) Orth. Test p-value
<i>Panel A</i>				
Age	38.72 (1.22)	42.54 (0.86)	44.17 (0.89)	0.00
Female	0.54 (0.04)	0.47 (0.03)	0.48 (0.03)	0.35
Highest grade	7.29 (0.21)	7.38 (0.17)	7.18 (0.16)	0.69
Single	0.12 (0.03)	0.09 (0.02)	0.07 (0.02)	0.34
Daily use of mobile phone	0.56 (0.04)	0.58 (0.03)	0.58 (0.03)	0.84
Size of plot(s)	5.77 (2.44)	8.06 (1.30)	6.76 (1.06)	0.57
Index Herd Size	-0.00 (0.11)	0.09 (0.07)	-0.05 (0.06)	0.37
Time lived in village	26.19 (1.46)	27.91 (1.08)	30.23 (1.11)	0.08
Member Group	0.54 (0.04)	0.51 (0.03)	0.59 (0.03)	0.18
Partic. Work	2.66 (0.38)	4.85 (0.87)	4.97 (1.15)	0.20
Spend Vill.	217.20 (24.37)	439.64 (59.80)	394.66 (64.28)	0.07
Contr. Treasury	8.11 (0.52)	29.50 (1.75)	15.33 (0.68)	0.00
General Trust	3.12 (0.09)	3.30 (0.05)	3.34 (0.05)	0.05
Security Group	0.63 (0.04)	0.79 (0.02)	0.82 (0.02)	0.00
Reported amount sent	6.76 (0.57)	7.62 (0.17)	7.32 (0.19)	0.20
Share of endowment sent	0.44 (0.03)	0.76 (0.02)	0.73 (0.02)	0.00
<i>N</i>	145	310	294	
<i>Panel B</i>				
Actual amount sent	6.32 (0.41)	6.52 (0.24)	6.40 (0.29)	0.94
<i>N</i>	2	18	17	

*Notes:* The p-value refers to the p-value from a joint orthogonality test of treatment arms. Mean values are shown. Standard errors in parentheses. *Panel A* shows the results for the sample with survey information. The herd index was derived with Principal Component Analysis. *Panel B* reports the mean and the p-value of the actual contributions for participants in the natural field experiment.

## 4.1 Community Aspirations

The summary statistics of the current and aspired dimensions of welfare are presented in Table 3.<sup>7</sup> Aspirations reflect the level of welfare that individuals would like their community to achieve in ten years. Pairwise correlation of our community aspiration and current community index reveals a high and significantly positive correlation (Spearman  $\rho = 0.3435$  and  $p - value < 0.001$ ). On average participants hold optimistic aspirations about the future, particularly with respect to individual welfare. We find that for all dimension of community aspirations, aspirations are significantly higher than the current level (two-sided  $t$ -test  $p - value < 0.1$ ).

The *Political Freedom* dimension is measured as the preferred number of times villagers meet to discuss community issues or to celebrate together. Currently smallholders report to meet with their village on average 1.9 times per month and aspire to meet 3.4 times per month. For the dimension *Protective Support* we use two measures. First we consider how many households receive support in case of need. Smallholders aspire for 47 percent of the households in their village to get support in case of need compared with an estimate of 26 percent currently receiving support. The second measure is the amount of Kwacha they would like village members to contribute to finance village projects on average per year. Smallholders currently contribute 105 Kwacha (about 7 Euro) but aspire that villagers contribute 157 Kwacha in ten years (about 9.6 Euro). However, the standard deviation is very high and explains why the median is much lower compared to the mean, both for the current and aspired levels (40 and 50 Kwacha, respectively).

To quantify access to security, our proxy for the dimension *Transparency*, we asked the respondents for the number of policemen/women or voluntary guards they currently have and would like to have for their village and divided this number with the estimated amount of current or future number of households living in their village. The villagers would like to have on average 10 police/-women or voluntary guards for their village per 100 inhabitants; this is 4 more persons than they actually have (0.06).

*Social opportunities* is our proxy for access to education and is measured as the minutes the smallholders would like students from their village to walk to a primary school. We inverted the measure so that higher numbers in the aspiration variables are always associated with better outcomes.<sup>8</sup> On average, smallholders aspire that students only have to walk ten minutes (1/0.10) or one third of the time they currently walk (33 minutes).

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<sup>7</sup>We excluded outliers of the community aspiration index that are above 10 and replace missing observations in the dimensions with the mean value.

<sup>8</sup>However, one could argue that a certain number of policemen/women are optimal and above that they could also be decreasing individual and collective welfare.

Our measure for the dimension *Economic Facilities* is the proportion of households that have very good housing conditions. Smallholders would like 81 percent of the households in their village to have very good housing conditions. This is 34 percentage points more than the current estimate (47 percent).

We also report on the individual aspirations and current level. On average, smallholders aspire for 13.85 years of education for their youngest child<sup>9</sup>, while their current level of education amounts to 3.7 years. We measure wealth in terms of the size of their plot as well as the number of goats and cows an individual owns. We find that aspirations to have extreme values resulting in a high standard deviation. On average, smallholders report to own six goats, three cows and have 7.1 hectares of land. They aspire for 46 goats, 38 cows and 16 hectares of land.

The last two rows in Table 3 present the standardized measures of well-being. The values reported compare the difference with the control group. Column 1 reports the current welfare levels. It shows that mean index of community welfare is 0.96 standard deviations higher than in the control group and that individual welfare is 0.22 standard deviations higher. To account for these differences in wealth between treatment and control groups, we include controls of welfare levels in the analysis.

In the analysis we are interested in measuring how the treatment video changes aspirations. Column 2 in Table 3 reports the community and individual aspiration indices standardized by the control group. While the z-score for individual aspiration index is 16, this value is negative for community aspirations. This descriptive analysis indicates that the videos might have reduced community aspirations. In section 4 we do a formal test.

Table 1 in the Appendix reports the correlates of community and individual aspirations. We regress covariates at the individual level on the Community Aspiration Index in Column 1 and on the Individual Aspiration Index in Column 2. We find that the time respondents have lived in the village is positively related to community aspirations. Being female is associated with lower individual aspirations. This is in line with the study by Beaman et al. (2012) who find a gender gap in (educational and career) aspirations.

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<sup>9</sup>For those who do not have children, we used the mean value.

Table 3: Current and Aspired Welfare

	Current level		Aspirations		
	Mean	SD	Mean	SD	Diff.
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Community Aspirations</i>					
Number of Meetings	1.892	1.729	3.439	2.450	-1.547***
Share Good Housing	0.468	0.354	0.814	0.968	-0.346***
School Distance	0.036	0.052	0.104	0.106	-0.068***
Security	0.061	0.057	0.099	0.076	-0.038***
Share Receiving Support	0.262	0.389	0.478	0.580	-0.216***
Contributions to Village	105.409	206.176	157.123	350.845	-51.714***
<i>Panel B: Individual Aspirations</i>					
Education Child	3.669	2.652	13.855	1.539	-10.187***
Plot Size	7.105	22.652	16.108	35.843	-9.003***
No. Cows	3.418	5.827	38.270	113.913	-34.852***
No. Goats	5.601	8.482	44.519	75.002	-38.919***
<i>Panel C: Indices</i>					
Community Welfare	0.969	3.543	-0.812	1.294	1.781***
Individual Welfare	0.228	2.975	16.023	36.312	-15.794***
Observations	749		749		

*Notes:* Mean values and standard deviations are presented. Current refers to the actual levels and aspirations to the desired one in 10 years. Variables are defined in section 2.1.

## 4.2 Econometric Analysis

In the analysis we first consider the relation between community aspirations and collective action. For this we run the following regression:

$$y_i = \alpha + Aspirations'_i \beta + X'_i \beta + \mu_a + \epsilon_i \quad (2)$$

where  $y_i$  is the vector of cooperation outcomes for individual  $i$ . We consider various self-reported measures of cooperation at the community level as participation in meetings, membership in community groups, contributions to the village.  $X'_i$  is a vector consisting of socioeconomic control variables at the individual level and  $\epsilon_i$  is the error term. We also include area fixed effects,  $\mu_a$ , to control for unobserved differences in the villages. We use ordinary least squares (OLS) estimation and cluster the standard errors at the village level. Our main outcome of interest is *Aspirations*.

The second part of the analysis focuses on the impact of the village role model videos on cooperation and community aspirations. We estimate the average treatment effects running the following regression:

$$y_i = \alpha + \delta T_v + X'_i \beta + \mu_a + \epsilon_v \quad (3)$$



where,  $y_i$  denotes the outcome variable for individual  $i$ . We consider various outcome variables as reported contributions, community and individual aspiration index, and other psychological variables.  $T_v$  is an indicator variable for the type of video that was presented (0 for control, 1 for VL video and 2 for CA video). All other variables have the same definition. The coefficient of interest is  $\delta$  which captures the Average Treatment Effects on the Treated (ATT).

### 4.3 Impact of Community Aspirations on Cooperation

We propose that cooperation in collective action depends on community aspirations. To investigate this relation we estimate the model in Equation 2. Since exposure to the treatment videos could affect the self-reported cooperation in collective action problems, we estimate the model only for the sample of participants in the control group.

The indicator variables of cooperation that we use in the analysis are the following:

1. Group member: measured as an indicator variable equal to one if the participant is member of a group and zero otherwise,
2. Participation Group: measure as the number of times per year that the individual participates in village work,
3. Spend village: measured as the value spent for village activities per year.
4. Contributions to the treasury in Kwacha.
5. Trust: Generalized measure of trust,
6. Security Group: Indicator of whether the respondent participates in a policing group.

In the analysis we control for individual socioeconomic characteristics as age, gender, education and wealth level of the participant. In addition, we include control variables of village wealth measured as the number of households with access to water and perceived norm of cooperation measured as the level of perceived participation of other community members (low, average, high). The estimated coefficients for community aspirations are presented in Table 4. We find that community aspirations are positively and significantly correlated with participation, but negatively correlated with contributions to the treasury. We find that there is a negative and significant correlation of community aspiration and trust. We conclude that community aspirations explain cooperation in the form of networking, but have negative impact on monetary contributions.

Panel B in Table 4 presents the correlation of individual aspiration measures and collective action. We find that participation in security groups is positively correlated with individual aspirations. For the other indicators we find no significant correlation.

Table 4: Aspiration and Cooperation in Collective Action

	Group member	Partic. work	Spend vill.	Contr. treasury	General. trust	Security group
Panel A:						
Community aspiration	0.008 (0.035)	0.431** (0.172)	1.718 (13.335)	-0.622** (0.246)	-0.060** (0.023)	0.006 (0.035)
Constant	-0.137 (0.338)	-3.766 (5.205)	359.294 (241.585)	22.654*** (6.198)	2.822*** (0.737)	-0.094 (0.714)
Panel B:						
Individual aspiration	-0.001 (0.002)	0.004 (0.007)	-0.392 (1.559)	-0.016 (0.013)	0.000 (0.006)	0.003* (0.001)
Constant	-0.116 (0.355)	-3.647 (5.213)	370.937 (247.032)	22.773*** (6.409)	2.779** (0.838)	-0.160 (0.695)
Observations	145	145	145	145	145	145
Fixed effects	No	No	No	No	No	No
Socioeconomic controls	Yes	Yes	Yes	Yes	Yes	Yes

*Notes:* Panel A presents regressions for community aspirations. Four observations with an aspiration index greater than 10 were dropped from the analysis. Panel B present results for individual aspirations. Regressions include controls for: gender, age, relationship status, highest grade attained, size of the plot in hectares, herd size index, group membership, daily mobile phone usage, and area fixed effects. Missing values for mobile phone usage (1 missing), participating in village work (8 missings) and generalized trust (1 missing) were replaced with mean values. Columns indicate the indicators of cooperation in collective action. Standard errors are clustered at the village level. \*, \*\* and \*\*\* indicate significance at the 0.1, 0.05 and 0.01 level, respectively.

#### 4.4 Treatment Effects on Cooperation

In this section we analyze the effect of the two videos on the decision to cooperate and community aspirations. We asked the smallholders several control questions on the videos to identify whether they rate the videos differently across treatments and to find out whether the role model intervention was successful. About 50 percent of the participants do not agree that the characters are similar to them. The answers point to the fact that they see the villages as more successful compared with their village and thus could potentially serve as role models. Only 30 percent of all participants state that they strongly agree that the characters are similar to them.

Using a two-sided Wilcoxon ranksum test we find no difference in the rating among VL and CA videos (p-value = 0.75). Further, participants from the VL and CA video

intervention both equally agree to the question whether their village will be as successful as the ones depicted in the video (3.66 out of 4). These results point to the direction that the participants see role models in both videos. Participants in CA video agree to like the characters of the video more than those in VL video with the difference being statistically significant at the one percent level.

The outcome variables that we consider are *Actual Contributions*, which are the observed contributions in the experiment and *Share of Endowment Sent*, which is the share of contributions based on their endowment participants reported to have sent obtained in the post-experimental survey. We restrict our analysis to the 642 individuals that reported contributions in the public good.

We first examine *Actual Contributions*. Participants from CA video villages contribute on average 6.40 Kwacha and participants from control villages 6.32 Kwacha. Using a two-sample  $t$ -test, we find that the difference is not statistically significant (p-value = 0.930). Average contributions in the VL video treatment amount to 6.5 Kwacha, which is not significantly different from the average contributions in the other groups (p-values  $\geq 0.754$ ).

Reported contributions are significantly higher compared to actual contributions. Participants in the CA video group report on average to have contributed 7.32 Kwacha, compared with 7.62 Kwacha in the VL video group and 6.76 in the control group. The difference between actual and reported amounts in the video treatment groups is statistically significant (p-values = 0.000).<sup>10</sup> This shows that participants in both video treatment groups misreport their actual contributions in the smallholder survey. Yet, the bias in reporting is not different between the two treatment groups.

Participants in the CA video group report to have sent 73 percent of their endowment and participants in the control group 68 percent. Using a two-sided  $t$ -test, we find no significant difference. In the VL video treatment participants sent 76 percent of their endowment. This is not significantly different from the share in the CA video and the control group (two-sided  $t$ -test p-values  $> 0.105$ ).

In the following we use regression analysis to control for important covariates. In Table 5 we estimated two regressions on the village level for the outcome variable *Average Actual Contribution*, which is the model we specified in Equation 2. In both regressions we control for village level and session characteristics. Column 1 shows the results of OLS estimation. Since the p-value of the F-test for the overall significance of the model is not

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<sup>10</sup>The sample size of the control villages is too small to conduct a two-sample  $t$ -test.

significant (p-value = 0.164), Column 2 provides the estimates from robust regression analysis to account for outliers, which is not unsurprising with a small sample size of 37 observations.<sup>6</sup> Controlling for village level observable characteristics, we find that the VL video and the CA video have a positive effect on average contributions at the village level. Participants in the VL video contribute on average 1.19 Kwacha and participants in the CA video 1.54 Kwacha more compared to individuals in the control group.

Next we estimate OLS regressions for the outcome *Share of Endowment Sent* and control for individual observables. Columns 3 and 4 of Table 5 present the regression results using area fixed effects and clustering the standard error at the village level (Equation 3). In Column 5 we additionally control for community aspirations. The estimations partially confirm the results of the actual contributions regression above. The CA video treatment does not affect the share sent in the experiment at the individual level, but the VL video. Individuals in the VL video treatment contribute on average 8.9 percentage points more compared to individuals in the control group. If we further control for community aspirations in Column 5, the effect size increases to 9.9 percentage points. Community aspirations are positively related to the reported share sent.

Table 5: Actual and Reported Contributions

	Average Actual Contributions		Share of Endowment Sent		
	(1)	(2)	(3)	(4)	(5)
VL Video	0.742 (0.936)	1.192* (0.599)	0.088* (0.052)	0.089* (0.050)	0.099* (0.052)
CA Video	0.392 (0.989)	1.537** (0.633)	0.060 (0.051)	0.064 (0.051)	0.076 (0.053)
Comm. Aspirations					0.021** (0.009)
Constant	7.381*** (1.295)	7.210*** (0.829)	0.676*** (0.001)	0.595*** (0.071)	0.606*** (0.070)
Observations	37	37	642	642	642
$R^2$	0.357	0.696	0.056	0.073	0.078
Fixed effects	No	No	Yes	Yes	Yes
Robust regression	No	Yes	No	No	No
Controls	Yes	Yes	No	Yes	Yes

Notes: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Column (1) and (2) report the results on regressing the treatments on average actual contributions at the village level. Regressions control for: adults village, already savings group, vehicles for transportation, frequency of meetings, treasury contributions, health group village, distance health facility (min) and availability medicine. Standard errors are in parentheses. Column (3), (4) and (5) report the results on regressing the treatments on the share of the endowment sent and include the individual-level control variables: gender, age, relationship status, highest grade attained, size of the plot in hectares, herd size index, group membership, daily mobile phone usage and area fixed effects. Standard errors clustered at the village level are in parentheses.

<sup>6</sup>We replaced the missing value for the variable *Adults village* and for the variable *Already savings group* for one village each in models in column 1 and 2 with the sample mean.

## 4.5 Treatment Effects on Aspirations and Beliefs

We hypothesize that the videos can change the reference point on what villages can achieve by working together and result in higher community aspirations. Further, we assume that the videos can lead to changes in individual aspirations, efficacy beliefs, trust and in perceived norms of cooperation.

First, we examine the effect of the video on our community aspiration outcome variable, the community aspiration index.<sup>8</sup> A two-sided Wilcoxon ranksum test does not yield a significant difference in the community aspiration index between CA video, VL video and control villagers (p-values  $\geq 0.219$ ). In Table 6 Columns 1 to 3 we present OLS regression results with the dependent variable *Community Aspiration Index*. The regressions control for the same individual level controls as for the outcome *Share of Endowment Sent* and additionally for locus of control and village efficacy beliefs. We use area fixed effects and cluster the standard errors at the village level. We find that both the VL video as well as the CA video have a negative effect on reported community aspirations. Treated individuals have a 0.46 and 0.59 standard deviations lower aspiration index compared to participants in the control villages.

Next, we are testing whether the role model intervention has an effect on the level of individual aspirations. Using a two-sided Wilcoxon ranksum test, we find a no significant difference in the reported individual aspiration index between respondents from three treatment arms (p-values  $\geq 0.248$ ). In Column 2 of Table 6 we present the regression results for the individual aspiration index. Controlling for the same covariates as in Column 1, we find that the video treatments do not affect individual aspirations.

Since exposure to role models has been found to affect efficacy beliefs, we also test whether our role model intervention changes village efficacy. Column 3 of Table 6 shows that we do not find any treatment effects on participants' belief on the possibility to bring about positive change for their village. As discussed above in Section 2.2, exposure to the treatment videos could also affect the perceived social norm of cooperation. We test whether exposure to the CA and VL video treatment affect individuals' perceived participation in their village. The results are reported in Column 4. We find that individuals in the CA and VL video group report higher scores of perceived participation in their village compared to individuals in the control group. For reported trust we find that the treatments have a negative effect for participants in the VL and CA video group compared to individuals in the control group. This suggests that the two videos increase perceptions of the social norm of cooperation, while it crowds-out social capital.

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<sup>8</sup>For our analysis we did not exclude outliers in the community and individual aspiration index.

Table 6: Treatment Effects on Aspirations and Beliefs

	Comm. Aspirations	Ind. Aspirations	Village Efficacy	Perceived Participation	Trust in Villagers
	(1)	(2)	(3)	(4)	(5)
VL Video	-0.463*** (0.103)	-1.550 (4.578)	0.334 (0.301)	0.168** (0.066)	-0.271*** (0.074)
CA Video	-0.590*** (0.102)	-5.709 (4.773)	0.351 (0.302)	0.176** (0.066)	-0.258*** (0.066)
Constant	-1.116*** (0.276)	22.453 (14.820)	2.831*** (0.362)	1.526*** (0.154)	3.228*** (0.181)
Observations	642	642	642	642	642
$R^2$	0.112	0.528	0.160	0.078	0.086
Fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes

*Notes:* Standard errors clustered at the village level are in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Regressions include the individual-level control variables: gender, age, relationship status, highest grade attained, size of the plot in hectares, herd size index, group membership, daily mobile phone usage, and area fixed effects. Regressions in Column 1 and 2 additionally control for locus of control and village efficacy.

## 4.6 Robustness

In the following section we provide some robustness checks on our outcome measure of community aspirations. First, we analyze the effect of the videos on each community aspiration dimension separately. As can be seen in Table 2 in the Appendix, the negative treatment effect is driven by aspirations for village meetings. Participants in the VL and CA video treatment report 0.35 and 0.36 standard deviation lower aspirations for the number of community meetings. However, we also find that there is a positive effect of both videos on the dimension *Economic Facilities*, proxied with the share of population with good housing conditions, yet the effect size is small compared to the one for village meeting aspirations. For all the other dimensions, we find no significant treatment effects. These results suggest that the videos do not consistently affect all dimensions of aspired community welfare.

As a second robustness check we test whether the negative treatment effects on the community aspiration index are robust to how the aspiration index is constructed. First, we consider whether the results change if we use different approaches of standardizing the measure. Table 3 Panel A shows four possibilities. Column 1 presents the index based on the method of Beaman et al. (2012) and Bernard et al. (2014) used in the analysis above, Column 2 presents the index with the same method but excluding the dimension *Transparency*, proxied by the share of security guards. Higher aspirations in this dimension can be interpreted in the way that an individual could expect more crime to happen, which is not associated with higher social welfare. We find that the results are robust to exclusion of this dimension. In Column 3 we constructed the index using the current level of achievements (from the control group) for the standardization. The

negative treatment effect of the VL video disappears, while for the CA video the effect still remains. We find the same results, when we exclude the *Transparency* dimension from the index (Column 4).

Another possibility to construct the index is using the growth rate or aspiration gap (see e.g. Janzen et al. (2017)). The growth rate denotes how far an individual aspires in relation to her current level ( $g = a-c/c$ ).<sup>11</sup> We construct the growth rate for each dimension and take the mean to comprise the growth rate index. In Panel B of Table 3 Column 1 we find that using this measure as an outcome variable for community aspirations that there is no treatment effect – also, if we take out the dimension *Transparency* from the growth rate index. The growth rate can also be used to create a standardized measure of community aspirations. Using the current level for the standardized growth rate we again find a negative treatment effect of both of the videos, which persists if the *Transparency* dimension is not considered.

In summary, we find that the treatment videos have a negative effect on the level of community aspirations (when standardized with the aspirations of the control group), but no effect on the gap between their aspired and current level (growth rate).

## 5 Discussion

We find evidence that videos depicting successful examples of collective action can increase contributions to a real public good. At the village level we find that on average participants in the treatment villages contribute 12 to 15 percentage points more than participants from control villages. For reported contributions we only find a treatment effect of the village life video. While we exclude demand effects from not identifying individual decisions, we also acknowledge it is less credible compared to using observed measures of contributions in the experiment. Yet, the effect size is similar to the ones for actual contributions (10.4 percentage points). Further, our results are based on a control group that only includes few villages. Future research should therefore test whether the results are robust to using a control group with a larger sample size.

While the role model intervention was successful in increasing contributions to the public good, we find negative treatment effects on our preferred measure of community aspirations. Analyzing the effect on each community aspiration alone, we find that both videos have a positive effect on the dimension *Economic facilities* and a negative effect on *Political Freedom* proxied with the number of village meetings participants would

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<sup>11</sup>For individuals who reported to have zero current level (e.g. no plots) the growth rate could not be calculated so that we increased all current levels by 0.1.

like to have in a month. These results could suggest that role model videos could have different effects on distinct dimensions or that the number of village meetings is not a valid proxy. It could be that more village meetings are associated with higher opportunity costs of time. A similar argument could be made for our indicator of *Transparency*, measured as the share of security/police guards an individual aspires to have for her community. Above a certain threshold a security guard could also decrease community and/or individual welfare. These results suggest that some indicators might be capturing aspirations for community welfare better than others. Future research should therefore test the validity of the different indicators for community welfare dimensions. While we find that the aspiration index is correlated with reported and experimental measures of cooperation, our paper does not provide a test of determinants of aspirations and correlates of aspirations with cooperation behavior for each dimension. Further, future projects should assess the external validity and reliability of the indicators by testing the questions in different settings, at different points in time and with variation in the order of measures and enumerators' experience in data collection (as done for individual aspirations in Bernard & Taffesse (2014)).

Future work should also analyze the mechanism of the role model intervention on cooperation. While we only find inconclusive results for community aspirations, we find that the videos changed perceived participation beliefs of participants. This suggests that the effect could run through a change in expectations of other people's behavior. Yet, while we find positive effects on perceived norms of cooperation, we find a negative treatment effect on social capital, i.e. generalized trust in village members. This is contrary to the findings of Paluck (2009), who report that an radio edutainment intervention on the roots and consequences of violence changed descriptive and actual, but not prescriptive norms. To shed light on the mechanism of behavioral change, future projects could vary the degree to which groups are exposed to the video to analyze the role of expectations.<sup>12</sup>

Our study provides evidence that a 11 minute long video can modify aspirations, beliefs and cooperation levels directly after exposure. It is also important to consider the long-term effects, as reported in Bernard et al. (2014) for individual aspirations. In their study they find evidence of long-term effects, yet the effect size is smaller six months after the intervention. We provide the results of an evaluation one year after our intervention in a later study.

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<sup>12</sup>In the study by Banerjee et al. (2019) analyzing the effect of a video series on HIV and risky sexual behavior, the authors do not find evidence that the positive treatment effects on health behavior can be explained by a change in perceived social norms.



## 6 Conclusion

We provide a new explanation on why collective action fails: Individuals could lack aspirations for their community that prevent them from investing in collective action. Survey and experimental evidence presented in this paper provide some support for our hypothesis. Participants, who are more optimistic about the common welfare, engage more in participation and contribute more in the public good. Yet, community aspirations are also associated with lower contributions to the treasury and lower trust.

This finding suggests that changing community aspirations is crucial to promote cooperation. Based on this premise we implemented an field experiment in which community members could contribute to finance a local public good: a savings group. We test whether expanding individuals' imagination by showing successful examples of cooperation induce cooperation. Our results, using individual contributions, show that a video that depicts communities that succeed at achieving higher welfare through collective action induce higher cooperation. Yet, using an explicit message to promote cooperation did not affect contributions to the public good. This finding suggests that examples and narratives are more effective at promoting cooperation. However, average contributions collected at the village level are higher among villages in which the narrative and the prescriptive video were shown compared to the villages with no video screening.

The treatment videos had a negative effect on community aspirations compared with the control condition – yet, the effects are only robust to some ways of constructing the index. Instead, the videos changed perceived norms of cooperation. Treated smallholders report to perceive the participation of their fellow villagers in village activities higher compared to smallholders in the control group. However, we find a negative treatment effect on reported levels of trust.

We further examined the impact the treatment has on concepts related to aspirations. We do not find a treatment effect on locus of control or village efficacy beliefs. These results are different from Bernard et al. (2014), who found that their intervention not only changed individual aspirations, but also locus of control beliefs. However, the literature also argues that aspirations are more easily affected by outside interventions than self-efficacy or locus of control beliefs (Wuepper & Lybbert, 2017).

A limitation of our study is that concept of community welfare that we use in our analysis, is not autochthonous. While this concept is acceptable by development practitioners and international organizations, local communities might have a very different idea of common welfare. Therefore, the indicator of community aspirations needs to

be validated in the field. This exercise can also help to identify alternative or complementary indicators of welfare. The indicators could be developed using a participatory poverty assessment approach (Robb, 1998).

We find that community aspirations are positively correlated with some measures of cooperation but not others. More research is needed to understand how institutional factors interact with collective aspirations to promote cooperation. Future work should also assess the direction of the causality. In particular, participation in collective action could increase social aspirations. For example, Feigenberg et al. (2013) shows that more frequent meetings of saving groups are more likely to poor risk and less likely to default second loans. We recommend that self-reported cooperation measures are complemented with secondary information on actual participation.

We implemented the treatments at the village level and did not obtain individual measures on contributions to the public good. Further, this paper only included an analysis of the short-term effects of the video screening. A future extension is to consider the long-term effects of the intervention. While video interventions are cost-effective in reaching a large number of people, future work should examine whether alternative interventions can succeed at changing collective aspirations.

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# A Appendix

## A.1 Tables

Table 1: Correlates of Community und Individual Aspirations

	(1)	(2)
	Community aspiration index	Individual aspiration index
Age	-0.004 (0.008)	0.250 (0.340)
Female	-0.109 (0.293)	-14.490** (4.817)
Highest grade	-0.064 (0.078)	0.490 (1.852)
Single	0.074 (0.525)	16.039 (11.601)
Daily use of mobile phone	0.126 (0.206)	-3.852 (5.666)
Size of plot(s)	-0.003 (0.003)	
Index Herd Size	-0.073 (0.086)	6.405 (6.134)
Time lived in village	-0.016* (0.008)	0.165 (0.250)
Constant	0.594 (0.777)	6.442 (30.022)
Observations	145	145
$R^2$	0.058	0.122

*Notes:* Standard errors clustered at the village level are in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Missing values for mobile phone usage (1 missing), participating in village work (8 missings) and generalized trust (1 missing) were replaced with mean values.

Table 2: Treatment Effects on Community Aspirations Dimensions

	Village Meetings	Share Good Housing	School Distance	Security	Village Support	Village Contributions
	(1)	(2)	(3)	(4)	(5)	(6)
VL Video	-0.345*** (0.055)	0.060*** (0.018)	-0.046 (0.073)	-0.049 (0.042)	-0.024 (0.031)	-0.059 (0.060)
CA Video	-0.358*** (0.059)	0.030* (0.017)	-0.089 (0.074)	-0.072 (0.044)	-0.021 (0.031)	-0.079 (0.059)
Constant	-0.197 (0.139)	-0.321*** (0.094)	0.173 (0.171)	-0.540*** (0.098)	-0.170*** (0.048)	-0.061 (0.125)
Observations	642	642	642	642	642	642
$R^2$	0.127	0.067	0.043	0.143	0.052	0.064
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes

*Notes:* Standard errors clustered at the village level are in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Regressions include the individual-level control variables: gender, age, relationship status, highest grade attained, size of the plot in hectares, herd size index, group membership, daily mobile phone usage, locus of control, village efficacy and area fixed effects.

Table 3: Treatment Effects on Different Indices

<i>Panel A - Standardized Measure</i>				
	Std. Aspirations	Without Transparency	Std. Current Level	Std. Current Level w.T.
	(1)	(2)	(3)	(4)
VL Video	-0.463*** (0.103)	-0.414*** (0.075)	-1.096 (0.696)	-0.827 (0.515)
CA Video	-0.590*** (0.102)	-0.517*** (0.072)	-1.770** (0.688)	-1.372** (0.510)
Constant	-1.116*** (0.276)	-0.575** (0.277)	2.860** (1.407)	3.387** (1.422)
Observations	642	642	642	642
$R^2$	0.112	0.103	0.097	0.086
Fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
<i>Panel B - Growth Rate</i>				
	Not Standardized	Without Transparency	Std. Current Level	Std. Current Level w.T.
	(5)	(6)	(7)	(8)
VL Video	-2.367 (8.110)	-2.819 (9.731)	-0.185*** (0.053)	-0.176*** (0.049)
CA Video	1.533 (7.210)	1.873 (8.651)	-0.219*** (0.053)	-0.207*** (0.049)
Constant	42.322** (19.882)	50.950** (23.861)	-0.214** (0.104)	-0.287** (0.107)
Observations	642	642	642	642
$R^2$	0.067	0.067	0.127	0.122
Fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

*Notes:* Standard errors clustered at the village level are in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Regressions include the individual-level control variables: gender, age, relationship status, highest grade attained, size of the plot in hectares, herd size index, group membership, daily mobile phone usage, locus of control, village efficacy and area fixed effects. Standard errors clustered at the village level are in parentheses.

## A.2 Variable Description

Table 4: Variable description

Variable	Explanation
Adults village	Number of adults living in the village
Age in years	Reported age in years
Agree similar characters	Whether the respondent disagrees/agrees that the video characters are similar to themselves (1=yes, 0=no)
Average actual contributions	Average contributions in the public goods game in each village in Kwacha
Average reported contributions	Average reported contributions in the public goods game in each village in Kwacha
Community aspiration index	Standardized index made up of five community aspiration dimensions proxied by: economic welfare, access to education, security, village contributions, mutual support and village meetings
Daily use of mobile phone	Respondent uses mobile phone daily (1=yes, 0=no)
Distance health facility (min)	Distance to the nearest health facility in walking minutes
Frequency of meetings	Frequency of village meetings (1=twice per year, 2= once per month, 3=more than once per month)
General trust in villagers	Trust in fellow villagers measured with the question: "Do you think that most people in this village are basically honest and can be trusted?" (1=strongly disagree, 2=slightly disagree, 3=slightly agree, 4=strongly agree)
Group member	Respondent is a member of (a) group(s) (1=yes, 0=no)
Highest grade	Highest grade of schooling attained in years
Household has child(ren)	Whether there are children in the age from 6 to 18 in the respondent's family (1=yes, 0=no)
Individual aspiration index	Standardized index made up of two individual aspiration dimensions: education and assets
Index herd size	Index capturing the herd size derived with principal component analysis

Table 5: Variable description 2

Variable	Explanation
Like character	How strongly the respondent disagrees/agrees to like the character (1=strongly disagree, 4=strongly agree=)
Listens to radio daily	Respondent listens to radio daily (1=yes, 0=no)
Locus of control	If the respondent agrees to be successful: one needs to work hard = 1, one needs to be lucky =0
No. of goats	Number of goats the respondent owns currently
No. of hh with access to safe water	Number of households with access to safe drinking water (i.e. protected wells, boreholes, pumped water)
No. of hh with good housing	Number of households in the village with very good housing conditions (reported); good housing conditions: houses with walls made out of red brick, burnt brick or asbestos and/or with iron sheets on the roof
Participation in village work per year	Number of times per year the respondent participates in village work such as road clearing, village clean up, insaka maintenance
Perceived participation	How the respondent rates the spirit of participation in the village (1=low, 2=average, 3=high)
Reported contributions	The amount the respondent reported to have contributed to the village project in Kwacha
Share of endowment sent	Amount of Kwacha that was sent in proportion to the endowment
Single	Respondent is single (1=yes, 0=no)
Size of plot(s)	Size of the plot(s) the respondent owns currently in hectares
Security group	Security group exists in village (1=yes, 0=no)
Spending village activities (individual/year)	Respondent's average spending for village activities in a year in Kwacha
Time lived in village	Time the person has lived in the village in years
Treasury contributions (hh/year)	Households' contributions to the village treasury on average per year in Kwacha (reported by the village leadership)
Village efficacy	Whether the respondents think that people like themselves have influence in making the village a better place to live (1 = agree, 0=disagree)

### **A.3 General Instructions**

Good morning/afternoon. Thank you for taking the time to come to this activity today. We are a group of researchers from the University of Göttingen and the University of Kiel in Germany and from Zambia. We are conducting a study on socio-economic conditions in Zambia. In this activity, we will ask you to make decisions involving money and to complete a survey. You will get 10 Kwacha for an activity. The money you will get will be yours to keep and take home. The activities of this study are financed by the German Research Foundation. Before we start, we would like to tell you some important points.

Today's activities may take three hours. Before we begin we would like to make some general comments about what we are doing here today and explain the rules that we must follow. Participation in this study is completely voluntary. If at any time you do not want to participate, you are free to leave whether the activities have begun or not. In this case you will not receive the payment, though. Only people from this village are able to participate in this study. If you are not from this village, you can stay and watch, but not participate in the activities.

All decisions will be made in private. That means no one of the other participants will know how you have decided and what answers you have given. The information we collect will be saved in an anonymized manner. We will treat the information confidentially. If you have heard anything about these types of activities, you should try to forget about that because each activity can be completely different. That is why it is important that you listen as carefully as possible. Before we explain the activities, each of you will draw a card from the bag with a number on it. This number is your ID number in our activity. We will show a video to all of you. If the number of participants is large, we will ask you to take turns to watch the video, beginning with lower numbers and going to larger numbers.. When all participants have watched the video, we will do an activity in the group which we will explain then. Afterwards, numbers 1 to 20 will also be asked to answer a survey.

### **A.4 Experimental Instructions**

Thank you for coming together. For this task you will receive 10 Kwacha. Here is a box in which you can put some, all or no money from the 10 Kwacha we give you. This money that is put to the box will be kept in your village. In addition to the money that you put into the box that belongs to your village, we will put the same amount of money which has been put to the village box on top of it. Thus, the total amount of money that you give to the village box will be doubled by us. Let us take an example. Suppose that the total amount of money that has been put into the village box is 60 Kwacha, so that the village has earned 60 Kwacha. This 60 Kwacha will be doubled by us, so that you will receive 60 Kwacha by us on top. In total you will have 120 Kwacha in the

village box in the end.

The total amount of money in the village box will form the seed capital for new savings groups in your village. This means that village members can save money regularly and when in need of capital, they can borrow money for a private productive investment. Often the households lack access to capital to undertake productive investments. Therefore, setting a saving goal and having access to credit can facilitate the needed resources. This has been shown in the video, where the women in the village of Lilanda were able to buy household items together.

The suggestion that we have for you is that you form several savings groups in your village. Each saving group could consist of 8 to 15 households. Only newly established savings groups will be eligible to receive the money earned in this study today, not already existing groups. Members of already existing groups are free to also be a member of a newly formed savings group. Further, village members who have not been able to come to this study today will be able to be a member of the newly created savings groups. People from other villages, however, should not become members of the new groups. Similarly, the seed capital that you receive today cannot be sent to saving groups with people from other villages.

The savings groups should meet regularly to collect the savings of group members. Once that the members have accumulated sufficient capital, members can borrow to finance productive investments such as buying seeds, animals, fertilizers or vaccinations, etc. Members of the group should repay the loan on periodic installments and on predetermined dates. Do you understand the procedure? Control question: If the total amount of money given to the village box is 50 Kwacha. How much money will we give to you on top? How much money is then in the village box? We will now explain how you will make your decision. Please do not ask questions or talk while you are here in the group. This is very important. Please be sure that you obey this rule, because it is possible for one person to spoil the activities for everyone. If one person talks about the activities while others can hear it, we would not be able to carry out the activities today.

We will call you one by one to come to a place where you will be given 10 Kwacha in 1 Kwacha coins in an envelope. We then ask you to go another place where you will wait in line until you will be called to come to the location where the box for the village box contributions is located. The box is located in such a way that nobody can see how much you contribute. You can put no coin, one, two, three, four, five, six, seven, eight, nine or ten Kwacha coins to the village box. If you have decided how much you want to put, you leave this amount in the envelope and place the envelope in the box. The money that you want to keep for yourself, you will take into your pocket. Please remember, nobody will get to know how much you put.

Once everybody has put their envelope into the box, we will take the box and open

the envelopes to count the money that has been given to the village box together with the village treasurer. After we know the total amount that has been put into the box, we will double the total amount of coins. In the end we will give the total money, the money that you have given and that we have put on top, to the village treasurer. We would like to ask you to hold a village meeting in the next week. In this meeting you can set up the new saving groups. You will need to decide on who will be the leader of the group, the secretary and the treasurer. In addition you will decide on the individual productive use you want to give to the loan, as well as the conditions on the savings and loans. The money that you have contributed to the village box and the amount that we have put on top will be equally divided among the newly established saving groups by the village treasurer.

We will give you a booklet which shows how a saving group can be established. When you meet in the next week, you can discuss with each other how your village saving group should look like and determine the rules. The booklet also contains an accounting sheet with which you can keep track of the outgoing and ingoing money and the total amounts of money that has been borrowed and paid back by each individual in the saving group. Further, we kindly ask you to keep records of the meetings and the discussions. Please register who has taken part in the village meeting next week by each of you writing down your name on a form that can also be found in the booklet. We will give several booklets to the headman who will distribute them to each group. How many of you are already members of a savings group? Please raise your hands. Thank you.

You can now go to the car where our research assistants will hand out the envelopes with the 10 Kwacha coins to you. Please form two lines and do not speak while you are waiting in line. This is very important.

## A.5 Smallholder Survey

### Smallholder Survey Natural Field 2018

1. Name of the research assistant (*First, Last*)
2. Date of interview (*dd/mm/yr*)
3. Village/Locality
4. Individual ID
5. First Name
6. Last Name
7. Mobile number(s)
8. Sex
9. Age (*years*)
10. Date of Birth (*dd/mm/yr*)
11. Marital Status
  - ☐ Single
  - ☐ Married
  - ☐ Divorced
  - ☐ Widowed
12. Relation to household head
13. What tribe are you?
14. How long have you lived in this village? (*years*)
15. What is the highest grade of schooling that you have completed? (*Number of years*)
16. How many 1 Kwacha coins did you leave in the envelope for the village treasury?  
Please be reminded, that this information will be kept private.  
----- Kwacha



17. What kind of change would you like to bring about in your village? Please tell me any desire/goal you want to achieve in your village in the future. *[RECORD ANSWER]*

--- Education:

--- Health:

--- Standard of living:

--- Safety:

--- Mutual support:

--- Participation:

*(Please list the order in which the goals were mentioned)*

18. How likely do you think you will be successful in bringing about these changes?

☐ Very likely

☐ Somewhat likely

☐ Not likely

☐ Very unlikely

19. Of all of these goals, which one is the most important one for you to change?

*(Specify goal)*

☐ Education

☐ Health

☐ Standard of living

☐ Safety

☐ Mutual support

☐ Participation

☐ Other, specify: -----

20. How many households in your village have very **good housing** conditions, i.e. houses with walls made out of red brick, burnt brick or asbestos and/or with iron sheets on the roof?

21. For how many households in your village **would you like to have** very good housing conditions in the future? (desire/goal)

22. How many households do **you expect to actually have** very good housing conditions in your village in ten years? (expectation)

- 22.1 If the expectation is higher than the desire/goal, why is this the case?
23. How many minutes do students from your village have to walk to get to a **primary school**?
24. How many minutes **would you like** students to walk to get to a primary school in the future? (desire/goal)
25. How many minutes do you expect students **will actually have** to walk to primary school in ten years? (expectation)
- 25.1 If the expectation is higher than the desire/goal, why is this the case?
26. How many **policemen/-women** or **voluntary guards** does your village have?
27. How many policemen/-women or voluntary guards **would you like** your village to have in the future? (desire/goal)
28. How many policemen/-women or voluntary guards do you expect your village **will actually have** in ten years? (expectation)
- 28.1 If the expectation is higher than the desire/goal, why is this the case?
29. How much money do households in this village **contribute to finance village projects** in a year? (*Kwacha/year*)
30. How much money **would you like** that households in your village contribute annually to finance village projects in the future? (desire/goal) (*Kwacha/year*)
31. How much money **do you expect** households actually contribute annually to finance village projects in ten years? (expectation) (*Kwacha/year*)
- 31.1 If the expectation is higher than the desire/goal, why is this the case?
32. How many households in your village get **support in case of need**, such as suffering from economic loss due to crop failure?
33. How many households **would you like** to get support in case of need in the future? (desire/goal)
34. How many households **do you expect** to actually get support in case of need in ten years? (expectation)
- 34.1 If the expectation is higher than the desire/goal, why is this the case?
35. How **many times** do people in your village **meet each other** (for example for celebrations or village discussions) in a month?

36. How many times a month **would you like** people in your village to meet in the future? (desire/goal)
37. How many times a month **do you expect** people to actually meet in ten years? (expectation)
- 37.1 If the expectation is higher than the desire/goal, why is this the case?
38. Are there children in the age of 6 to 18 in your family?
- ☐ Yes
- ☐ No (*Go to question 42*)
39. What is the education level that the youngest **child** achieved until now?
40. What is the level of education you **would like** this **child** to achieve in his/her life? (goal/desire)
41. What is the level of education **you expect** this **child** will to achieve in his/her life? (what they will probably achieve)
- 41.1 If the expectation is higher than the desire/goal, why is this the case?
42. Do you own land, cows and goats? How big is the size of your plot and how many cows and goats do you have?
- Size of plot:
- # of cows:
- # of goats:
43. What is the size of your plot and number of cows and goats **you would like** to have in your life? (goal/desire)
- Size of plot:
- # of cows:
- # of goats:
44. What is the size of your plot and number of cows and goats **you expect** to have in ten years? (expectation)
- Size of plot:
- # of cows:
- # of goats:

- 44.1 If the expectation is higher than the desire/goal, why is this the case?
45. How many households live in this village? *No. of households*
46. How many households do you expect to live in this village in ten years? (*no. of households*)
47. Please tell me with which of the two statements you agree more:
- Statement **A**: “To be successful, above all one needs to work very hard.”
- Statement **B**: “To be successful, above all one needs to be lucky.”
- ☐ I agree more with A
- ☐ I agree more with B
48. Do you think that women and men have equal rights in your village?
- ☐ Yes
- if yes:
- ☐ Strongly agree
- ☐ Moderately agree
- ☐ No
- if no:
- ☐ Slightly disagree
- ☐ Strongly disagree
49. Are you a member of any clubs, groups, organizations, committees or associations?
- ☐ Yes
- ☐ No (*if no, go to question 64*)
50. If yes, in which one(s):
- ☐ Cooperative (fishing, agriculture, etc)
- ☐ Savings group/club
- ☐ Savings group/club
- ☐ Neighborhood/village association/committee
- ☐ Water/waste group/club
- ☐ Health group/club

- ☐ Youth group/club
- ☐ Women group/club
- ☐ Sports group/club
- ☐ Other (*specify*)

51. How often do you meet with your savings group?

- ☐ Once a week
- ☐ Twice a month
- ☐ Once a month
- ☐ Less than once a month

52. What is the name of your savings group?

53. How many members does your savings group have? (*Open ended answer*)

54. How many women are in the savings group?

55. How many men are in the savings group?

56. How long has the savings group been in existence? (*in years*)

57. What is the goal of the savings group? (*Open ended answer*)

58. Does your group make regular deposits?

- ☐ Yes
- ☐ No (*if no, go to question 60*)

59. If yes, how much money does each member deposit every meeting?

----- Kwacha

60. How often does each member on average borrow money from the saving group in a year? (*Open ended answer*)

61. Would you say that the group is successful in achieving its group goal (such as providing loans for productive uses)?

- ☐ Yes
- if yes:
  - ☐ Strongly agree
  - ☐ Moderately agree
- ☐ no

if no:

- ☐ Slightly disagree
- ☐ Strongly disagree

62. Did you have problem(s) in your saving groups?

- ☐ Yes
- ☐ No (*if no, go to question 64*)

63. If yes, which ones? (*Open ended answer*)

64. Do you consider yourself to be active in the group(s), such as by attending meetings or volunteering your time in other ways, or are you relatively inactive?

- ☐ Very active
- ☐ Somewhat active
- ☐ Not active

65. How many times a year do you participate in village work (such as road clearing, village clean up, insaka maintenance)?

--- times per month

66. How much money do you spent on average for village activities or village problems in a year?

--- Kwacha/year

67. How much money do you spend on schooling on average per school term?

--- Kwacha/school term

68. Do you think that most people in this village are basically honest and can be trusted?

- ☐ Yes
- if yes:
  - ☐ Strongly agree
  - ☐ Moderately agree
- ☐ No

if no:

- ☐ Slightly disagree

☐ Strongly disagree

69. Do you think people like yourself have influence in making this village a better place to live?

☐ Yes

If yes:

☐ yes, a lot

☐ yes, a little bit

☐ No

70. Overall, how would you rate the spirit of participation in this village?

☐ High

☐ Average

☐ Low

71. Do you have friends and/or family in the village ...?

☐ Yes

☐ No

72. How often do you visit the village ....? (*Open ended answer*)

73. How often do you use a mobile phone?

☐ Every day

☐ Once a week

☐ Once a month

☐ Once a year

☐ Never

74. How often do you listen to a radio?

☐ Every day

☐ Once a week

☐ Once a month

☐ Once a year

☐ Never

75. Do you like the characters of the video?

☐ Yes

if yes:

☐ Strongly agree

☐ Moderately agree

☐ No

if no:

☐ Slightly disagree

☐ Strongly disagree

76. Do you think that the people in the video are similar to you?

☐ Yes

if yes:

☐ Strongly agree

☐ Moderately agree

☐ No

if no: why do you think that they are not similar?

77. Do you think your village can be as successful as the villages in the video within the next ten years?

☐ Yes

if yes:

☐ Strongly agree

☐ Moderately agree

☐ No

if no:

☐ Slightly disagree

☐ Strongly disagree

78. Do you know the FAO, the Food and Agriculture Organization of the United Nations?

☐ Yes

☐ No



## A.6 Village Survey

### Village Survey - Natural Field

1. Name of the research assistant (*First, Last*)
2. Date of interview (*dd/mm/yr*)
3. Name of the interviewee (*First, Last*)
4. Role of the interviewee (e.g. headwoman/-man)
5. Village
6. How many households does your village have?
7. How many adults live in your village?
8. How many households in your village have access to safe drinking water (i.e. protected wells, boreholes, pumped water)?
9. On average how many minutes does it take a household to get access to safe drinking water?
10. What is the main market where villagers sell their products? (*specify the name of the city where the main market is located*)
11. How many kilometers away is the main market?
12. How many minutes does it take to reach the main market?
13. What is the state of the road leading to the market?
  - ☐ Good
    - if good:
      - ☐ very good
      - ☐ good
  - ☐ Poor
    - if poor:
      - ☐ poor
      - ☐ very poor
14. How many children in the village go to primary school?

15. How many children, who are in the age to go to primary school, do not attend primary school?
16. How far is the nearest health facility?  
----- distance (in walking minutes)
17. Does the facility have medicine?
- ☐ Yes
- if yes:
- ☐ a lot
- ☐ some
- ☐ only little
- ☐ No
18. Does the village have police or a neighborhood security committee?
- ☐ Yes we have police
- ☐ Yes we have neighborhood security committee
- ☐ No
19. What type of transportation do people in this village use to go to neighboring villages?
- ☐ Walking
- ☐ Bicycle
- ☐ Motorbike
- ☐ Car
- ☐ Public transport
- ☐ Other
20. Do you have a resource that is used jointly such as a well or a village field/garden?
- ☐ Yes
- ☐ No (*go to question 22*)
21. If yes, which one(s)? (*specify*)
22. How often do the people come together for a village meeting?
- ☐ More than once a month

- ☐ Once a month
- ☐ Twice a year
- ☐ Never happens

23. Which regular activities do the people in the village do together (such as the improvement of insaka, cleaning of roads and paths, maintenance of borehole)?  
(*specify*)

24. How often does the village meet per year?

25. Do you document your village meetings and/or the regular activities (when they take part, what was done/spoken and how many people participate?)

26. In the last three years, has the village organized to address a need or a problem?

- ☐ Yes
- ☐ No (*go to question 27*)

a. Around which issue(s) did the village organize?

a) \_\_\_\_\_

b) \_\_\_\_\_

b. Was/were the initiative(s) successful?

a) Initiative #1

☐ Yes

☐ No

☐ Ongoing

b) Initiative #2

☐ Yes

☐ No

☐ Ongoing

27. How many programs and institutions (such as WHO, UNICEF) assist your village?

a. What are the three assistance programs and the institutions that support them?

1. Program/institution: \_\_\_\_\_

2. Program/institution: \_\_\_\_\_

3. Program/institution: \_\_\_\_\_

28. Which of the following organizations, clubs, committees, or groups exist in this village?

- ☐ Cooperative (fishing, agriculture, etc.)
- ☐ Saving group/club
- ☐ Neighborhood/village association/committee
- ☐ Water/waste group/club
- ☐ Health group/club
- ☐ Youth group/club
- ☐ Women group/club
- ☐ Sports group/club
- ☐ Religious group/club
- ☐ Other (*specify*)

29. How many saving groups exist in this village?

- a. How many people participate in the first savings group?
- b. How many people participate in the second savings group?
- c. How many people participate in the third savings group?
- d. How many women in the village are members of a savings group?
- e. How many men in the village are members of a savings group?

30. Do any persons or organizations (such as for example government, religious organizations, and businesses) help or support these village-based organizations?

- ☐ Yes
- ☐ No (*go to question 31*)
- a. If yes, who/which one(s)? (*specify*)

31. Does this village have a village treasury?

- ☐ Yes
- ☐ No (*go to question 32*)
- a. Who is in charge of the accounting of the village treasury? (*specify*)
- b. Do you have accounting records?
  - ☐ Yes

☐ No

- c. How much money is in the village treasury at present?
- d. How much money is in the village treasury on average in a year?  
----- Kwacha/year
- e. How much money do people contribute to the village treasury on average per year?  
----- Kwacha/year
- f. Does the village treasury have other sources of money than financial contribution of people living in this village? (*specify*)
- g. For what has the money in the village treasury spent in the last year?  
(*specify*)

32. How often do village members on average give money to a village member who is in need?

- ☐ More than once a month
- ☐ Once a month
- ☐ Twice a year
- ☐ Once a year
- ☐ Never happens

33. What kinds of crimes (such as robberies, violent disputes, etc.) exist in this village? (*specify*)

34. How often do crimes happen in a year?  
----- Times/year

35. Are there members of this village who go to other places to work during certain periods of the year?

- ☐ Yes
- ☐ No

## A.7 Video Scripts

### Collective Action Video

**Narrator:** "In rural communities local development is everyone's business: men, women, youth and elders alike. Village clubs create quite a community dynamic. Each time a club is created people's participation and social cohesion are reinforced. At the entrance of the village of Iaosongi, in the heart of the Congo forest, the rehabilitation of the road was decided within the villagers in their village club. The clubs are used to facilitate dialogue and stimulate collective action. Village clubs are groups of people that meet regularly to discuss challenges, to find and implement solutions."

**Woman:** "Together, we decided to rehabilitate the road. Look how it looks now. First the men of the village enlarge the way and then women follow with their machetes."

**Narrator:** "It was a great challenge, indeed, as this route is the main one that leads to the village. Until recently it could only be used by bicycles and pedestrians. The road is not quite finished. Only a few hundred meters remain. But it is already having an impact."

**Woman:** "In the village, it is cheaper to buy cassava sticks than before. The price has dropped from 500 to 200, even to 150 Congolese Francs. And we manage to sell our fish for a higher price."

**Villagers:** "If you are afraid to be on the front-line, let us take your place and we will show you how to develop your environment."

**Narrator:** "In Lilanda, another village of the Tshopo Province it is harvest day and many people are here together as this is a community field. The traditional chief allocated land to the village clubs. The clubs then decided to use it for producing seeds and called upon the local union of producer organizations. Together they identified and adapted a variety of seeds and experimented with seldom used techniques such as line planting and double cropping. The partnership between producer organizations and the village clubs benefits the entire community. Production has increased and better quality seeds are now available. The whole population of Lilanda joins in and takes advantage of this new impetus. Taking its inspiration from the village clubs, 100 women producers created their own association spontaneously. Today they share the goods they have jointly acquired thanks to their individual contributions."

**Woman:** "We were inspired by the way the clubs operate and have decided that we too could be involved in the development of our community this is why we have created our association."

**Narrator:** "The Tshopo Province in the Northeast of the Democratic Republic of Congo is covered by rainforests and watered by the Congo River and its tributaries. On this huge territory fishing is a key economic activity that is traditionally controlled by men. Women bring occasional support. Therefore, in order to increase household incomes, why not allow women to fish? This question was raised during the discussions of the local village club in the fishing village of Isangi. The club was formed by the villagers. They have spaces in which rural men and women get organized, express themselves, and take collective action to improve their living conditions. Henry and Rebecca are husband and wife. They have been members of the village club for three years and have taken part in the discussions about fishing."

**Man:** "Men-women equality and the gender division of responsibility were discussed in our village club for the first time. We have realized that women can also play a proactive role in fishing activities."

**Narrator:** "Behaviors have gradually changed. It is now accepted for women to carry out tasks that were previously attributed to men. Rebecca, Henry's wife, fishes with a friend. The redefinition of women's roles has increased the households fish catches and increased their incomes as a result. At the same time the clubs have discussed and brought awareness to the issue of nutrition. The diet of the community is now more varied and balanced. People now eat vegetables, meat and, of course, fish. However, for Rebecca and her friends the benefits of this new gender division of tasks goes far beyond food and nutrition."

**Woman:** "Today, we pay school for five children. Three others are at home. We have also started to buy metal sheets to change the roof which currently leaks because it is in straw. Thanks to the club, we have increased our incomes and acquired new skills."

**Narrator:** "A few kilometers from Isangi, in Yalosuna, village clubs have encouraged communities to fight against food taboos and resulting malnutrition. Adama is busy preparing food for her family. On today's menu there is a variety of fish that, until recently, women were not allowed to eat."

**Woman:** "Traditions forbade us from eating catfish. People said that: "If you eat it, your eyes, belly and arms will swell, your hair will fall out and your body will be

ripped in pieces.”

**Narrator:** ”Thanks to discussions and awareness activities in the village clubs, things have changed. Adama and the other women of the village are now allowed to eat forbidden food which represents a new source of protein and an important step towards gender equality. In this village, as well as in many other places, such changes have been possible thanks to the support of traditional chiefs.”

**Man:** ”I am so proud of this! It is an encouraging sign of trust with my people. I hope that in the future we will even improve this way of working.”

**Narrator:** ”In fact this is the very nature of the village clubs – to collaborate with all development stakeholders. The clubs also work closely with the local authorities.”

**Man:** ”I have seen the changes. Before when I visited the villages as an Agriculture Inspector, people used to ask me for machetes, seeds, ... But now they don’t ask for everything. Instead they say ’come and see what we’ve done!’”.

**Narrator:** ”On the other bank of the Congo River, in the village of Bossokulu, the local village club has introduced a new crop, the soya bean, a legume that is highly rich in protein. Zhang is the leader of the local club that has played a key role in this change. After discussions in the club, members realized that the diets in the village in the province were not diversified enough; consisting mainly of cassava and banana. So they decided to introduce new varieties of crops.

**Man:** All this helps us for a good diet. Here, Fally takes care of his field where he has planted soya as a result of our discussion in our village club.”

**Narrator:** ”All of these experiences are worth being shared and it happens through a community radio. Each week the clubs discover what other clubs do, talk about it, and even build on these experiences. Thanks to their work and their networking, village clubs allow communities to redefine their daily life and to shape their future.”

### Village Life Video

**Narrator:** ”In Sub-Saharan Africa, more than half of the population lives in the rural areas. For example in the Democratic Republic of Congo, almost 60% of the population live in rural areas. The village of Iaosongi is a good example of a traditional village in the Congo. [no speaking]. This village is located in the heart of the Congo forest.



The village is very remote and it takes several hours to travel to the capital. The main access to the village is by an unpaved road. Regularly, it is necessary to do maintenance.”

**Woman:** ”I am Christine Sombotolea. I come from Iaosongi. This road connects us to other villages in the area. As it is no concrete road, it has to be maintained by machetes.”

**Narrator:** ”There are also other roads, which are smaller compared to the main one and that can only be used by bicycles and pedestrians. It is important for the village to be well connected to the other surrounding villages.”

**Woman:** ”Farmers from other villages come and sell their cassava sticks here. We get them for about 150 to 200 Congolese Francs. We mainly sell fresh fish.”

**Villagers:** ”If you are afraid to be on the front-line, let us take your place and we will show you how to develop your environment.”

**Narrator:** ”This is Lilanda, another village in the Democratic Republic of Congo. It is harvesting time. People here rely on farming. They grow a variety of crops. Among them are cassava, manioc, peanuts, corn, beans, rice and also bananas and pineapples. Drought is not a big problem here, as the village lies in an area with regular rainfall. The majority of people in the Democratic Republic of Congo work as subsistence farmers. Typically, farms are about four acres large and maintained by simple tools. Today, the women in Lilanda meet to share the goods that they have bought for their household: mattresses, pots and other household items they need for their living. The next bigger town is far away and people often lack transport possibilities.”

**Woman:** ”We do not have a car which we can use to drive to the next city, so we order our needed household items from a supplier who brings them to our village.”

**Narrator:** ”The Tshopo Province in the Northeast of the Democratic Republic of Congo is covered by rainforests and watered by the Congo River and its tributaries. On this huge territory fishing is a key economic activity that is traditionally controlled by men. Women bring occasional support in order to increase household incomes. For fishing, people here use traditional methods: Unmotorized canoes, seine nets, gill nets, hand lines and fish baskets. The fishing village of Isangi is meeting today to discuss their last week’s catches and experiences. The fish are not easy to catch. Most of them only live in specific areas such as in channels and creeks with only little current. This is where the fish find their food. Henry and Rebecca are husband and wife. They have been living in Isangi for their whole life. They also depend on fishing for their living.”

**Man:** "During the rainy season from September and October and also the time between April to June the fish are breeding. At these times there are a lot of small animals in the water the fish need for their growth."

**Narrator:** "In these periods there are not many fish that the fisher find in the Congo river. Catches are then the lowest in the whole year. Overall, however, the Congo river has a great diversity of fish such as the elephant fishes, cichlids and catfishes. Today, Rebecca is fishing with a friend. They hope to have fish for dinner. When they fish more than they can eat they sell their fish on the local market. The diet of the community is very varied and balanced. People eat vegetables, meat and, of course, fish. Rebecca and her friend have been successful. They are returning from fishing and are on their way to prepare dinner."

**Woman:** "We have five children who go to school. Three others are still at home. As everybody in the village, they will depend on fish. My husband takes them with him in his boat and teaches them how to fish. They learn how to locate the fish and how to throw the net into the river."

**Narrator:** "A few kilometers from Isangi, there is the village called Yalosuna. The woman, Adama is busy preparing food for her family. On today's menu there is a variety of fish that also come from the Congo river."

**Woman:** "I like to prepare catfish. It is cooked very fastly and it is very delicious, very nutritious. It is the favorite meal of my husband and my children."

**Narrator:** "Adama and her family eat the catfish cooked; with some oil and bread. It is a traditional meal in the village of Isangi due to the availability of catfish in the Congo river. The fish presents a source of protein which is an important step towards a good nutrition. The village of Isangi is governed by the grand traditional chief of the Kome Chiefdom Joseph Ngwangwa Onobaiso."

**Man:** "I have been the grand traditional chief for many years. The fish in my chiefdom are very important for the people. It presents a source of food and livelihood."

**Narrator:** "In Yalosuna people grow up with fishing. They learn it early on."

**Man:** "I am also from the village Yalosuna. I am living here over 10 years now. Before I came here, I did not know how to fish. But since I learned it from the other men in

the villages I earn my living with it.”

**Narrator:** ”On the other bank of the Congo River, in the village of Bossokulu, the inhabitants do not rely so much on fish, but instead on the soya bean, a legume that is highly rich in protein. So soya bean can replace animal products. The crop grows especially well in areas with a hot climate. Next to the soya bean, the diets in the village consists of mainly cassava and banana.”

**Man:** ”All this helps us for a good diet. Here, Fally takes care of his field where he has planted soya. He also sells the beans on the market.”

**Narrator:** ”After work, the village members meet to hear some radio or to talk about everyday life. Today they are celebrating a birthday of a village member. Celebrations are an important part of their culture.”