

# Community Driven Development in Sierra Leone: GoBifo Analysis Plan

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This document outlines the plan for analyzing the impact of the GoBifo Project, using the endline round 1 data. Note that this document was written up before the analysis of any endline round 1 data. We will produce a similar document before the analysis of any GoBifo endline round 2 data, which has not yet been collected.

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H11: GoBifo changes political and social attitudes, making individuals more liberal towards women, more accepting of other ethnic groups and “strangers”, and less tolerant of corruption and violence. (\*Note that this was not part of the original program hypotheses document but relates closely to GoBifo project objectives.)

## **I. Overview**

GoBifo means “go forward” in Krio. The GoBifo Project is a community driven development (CDD) pilot project in Sierra Leone that seeks to build social capital, trust and capacity for collective action in the communities where it works. The project’s designers sought to do this by establishing (or re-establishing) inclusive and representative Village Development Committees (VDCs) in communities and then training them in egalitarian development planning. VDCs were then given grants with which to carry out development projects they had chosen in the planning process.

The evaluation—led by the Evaluations Unit of Institutional Reform and Capacity Building Project (a project of the Government of Sierra Leone and the World Bank), IRCBP, with technical assistance from the U.C. Berkeley Center for Evaluation of Global Action and the MIT Jameel Poverty Action Lab—is designed to test the ability of a participatory CDD approach to build social capital, promote local public goods provision, and increase the inclusiveness of community decision making in a post-conflict environment where a lack of participatory decision making in local politics was seen by many as a contributor to the country’s long running conflict. If successful, the intention is to seek funding to scale up community level CDD programs and integrate them into one of the large scale community development programs in Sierra Leone.

The evaluation also seeks to develop and refine new participatory tools to identify much sought after, yet hard to measure, development outcomes such as trust and participatory decision making. Moving beyond traditional household survey methods, the endline deploys a series of innovative “gift experiments” designed to measure differences in the extent to which decisions in a community are made in a participatory way, the ability of a community to come together to provide local public goods, and the extent of local elite capture between treatment and comparison groups by observing the communities’ behavior when presented with multiple real-world choices.

The GoBifo project is among the first CDD projects designed to be evaluated by a randomized impact evaluation. In 2005, 118 treatment communities and 118 comparison communities were selected in Bombali and Bonthe districts of the country. A baseline survey (Nov 2005 – Jan 2006) was fielded to capture information on a range of indicators having to do with local public goods, social capital, trust, and capacity for local collective action, as well as certain individual and community characteristics across which the program may have differential impacts, such as socioeconomic status and exposure to violence during the war. After GoBifo completed its work and distributed all (or nearly all) of its grants to communities, an endline survey was fielded (May 2009 – June 2009).

Even before the baseline survey entered the field in 2005, the evaluation team and the project’s designers had developed a set of hypotheses about CDD they sought to test. This document

explains each hypothesis and briefly discusses how each will be tested using the baseline and endline data.

## II. Regression specifications

### II.A. General Framework

The most general strategy for testing each hypothesis will be to regress the measures relevant for each hypothesis on a treatment indicator variable and controls using the following model:

$$Y_{ic} = \beta_0 + \beta_1 T_c + V_c' \Gamma + W_c' \Pi + \varepsilon_{ic}$$

where  $Y_{ic}$  is a given outcome (e.g., participation in local road brushing activities) for household  $i$  in community  $c$ ;  $T_c$  is the village treatment dummy;  $V_c$  is a vector of the community level controls;  $W_c$  is a fixed effect for geographic ward, the administrative level on which the randomization was stratified; and  $\varepsilon_{ic}$  is the usual idiosyncratic error term, clustered at the village level (the unit of randomization). Here the parameter of interest is  $\beta_1$ , the average treatment effect. Note that  $V_c$  can either be a sparse set of community level controls such as distance from road, population size, or a more detailed set of controls, including all the variables for which we expect interaction effects, as discussed below in section. The analysis will present specifications with both the sparse and detailed  $V$ , as each have their possible strengths, e.g., while both yield unbiased estimates of program impacts, the more saturated specification may benefit from more precise estimates (smaller standard errors).

For all outcomes that were collected in both the baseline and endline surveys, analysis will exploit the panel structure of the data using the following adapted model:

$$Y_{ict} = \beta_0 + \beta_1 T_c + \beta_2 P_t + \beta_3 (T_c \times P_t) + V_c' \Gamma + W_c' \Pi + \varepsilon_{ict}$$

where  $Y_{ict}$  is a particular outcome for household  $i$  in community  $c$  at time  $t$ , where  $t = 0$  if the observation was recorded before the program began (in the baseline survey) and  $t = 1$  if recorded after the program concluded (in the endline survey). The additional indicator variable  $P$  signals the post-treatment period. The parameter of interest is now  $\beta_3$ , the average treatment effect. Since the geographic identifiers are fixed and the community-level controls largely do not change over time, these variables remain as described above and will be drawn from the baseline dataset unless otherwise indicated. Variables for which panel data is available are indicated in the hypotheses section.

There are a couple points to note regarding outcome measures. To start, some outcome measures are at the village level (e.g. the presence of local public goods) in which case  $Y_{ic}$  is replaced by  $Y_c$ . In addition, while questionnaires were taken at “community” or “household-level,” many of the questions (e.g. those about political and social attitudes) in the household questionnaire were asked specifically about the individual respondent who answered the questionnaire. Within each community, these household respondents were randomly selected according to gender and age status (where youths were defined as 18 to 35 years and non-youths as 35 years and older). Depending on the indicator, and whether it relates to the community, household or individual, the above regression models can be thought of as either regressions using community-, household-, or individual-level data.

The discussion of hypotheses below lists each indicator from the baseline and/or endline surveys that will be used to test each hypothesis. Standard errors in regressions using household level data will be adjusted to account for the fact that treatment is at the village level, by clustering disturbance terms by village. For each hypothesis,  $Y_{ic}$  (or  $Y_c$ ) will be evaluated at least two separate ways:

- 1) regressing a single outcome measure on the dependent variables specified above; and
- 2) “mean effects” estimation, using multiple outcome measures to evaluate if the program has had an impact on a set of closely inter-related outcomes, for instance, the multiple questions dealing with trust, or those measuring information about local governance and politics, or local public service infrastructure, among others (as in Kling et al. 2007).

## II.B. Interaction Effects

We are interested in examining whether GoBifo has differential impacts across households and villages with different characteristics, to assess the degree of heterogeneous treatment effects. To this end, we will estimate the following general regression model for each of our hypotheses indicators (as well as using a mean effects approach, as mentioned above):

$$Y_{ic} = \beta_0 + \beta_1 T_c + \beta_2 R_{ic} + \beta_3 (T_c \times R_{ic}) + V_c' \Gamma + W_c' \Pi + \varepsilon_{ic}$$

where  $R_{ic}$  is a vector of the individual and village level characteristics listed below across which we hypothesize GoBifo plausibly has differential effects. Similarly, where panel data is available, the interaction model takes the form:

$$Y_{ict} = \beta_0 + \beta_1 T_c + \beta_2 P_t + \beta_3 R_{ic} + \beta_4 (T_c \times P_t) + \beta_5 (T_c \times R_{ic}) + \beta_6 (R_{ic} \times P_t) + \beta_7 (T_c \times P \times R_{ic}) + V_c' \Gamma + W_c' \Pi + \varepsilon_{ict}$$

In these models, the parameter of interest ( $\beta_3$  and  $\beta_7$ , respectively) provides the differential impact of treatment for different values of the interaction variable (e.g. if  $R_{ic}$  is a dummy variable equaling one for females,  $\beta_3$  gives the additional treatment effect for women as compared to men). Some of the interactions may be particularly important for the hypotheses most closely linked to collective action. All of the variables below might impact the capacity for community collective action, but it is unclear whether those communities with a greater capacity for collective action will see little impact of GoBifo (because there is little room for improvement, for instance), or whether they will see the largest GoBifo impacts because any effects are magnified in communities with more capacity for collective action.

Set 1: Interaction variables explicitly targeted by the GoBifo project

- Gender
  - Benefits of GoBifo may have been larger among women than men, since they were explicitly targeted in the program, with the goal of boosting gender equality. Alternatively, men, whom the baseline confirmed are already more active in community decision making, may have used this influence to capture most program benefits.
- Age (Youths vs. elders)

- Youth are often marginalized during community decision making processes, but they were explicitly targeted in the program, with the goal of boosting youth empowerment. Thus the effects of GoBifo on feelings of political empowerment and participation will plausibly be larger for youth relative to elders. Alternatively, elders, who are already quite powerful relative to youth in many Sierra Leone communities, may have used this influence to capture most program benefits.
- Household socioeconomic status (e.g., education, asset ownership)
  - Similar to the hypotheses for women and youth, poorer households were targeted by the program for greater voice in local community governance and thus may benefit more than other households. However, their marginalized position may have prevented them from capturing GoBifo benefits relative to other households.
- District (Bombali vs. Bonthe)
  - Randomization was stratified by district, and program effects may plausibly differ across districts due to their different ethno-linguistic, socio-economic and institutional characteristics, issues that we intend explore in detail.
- Indicators of remoteness (e.g. distance to roads).
  - At baseline, remote communities may be poorer, have less information, and less access to government officials and NGOs than less remote communities. They may also be more cohesive with less in and out migration or community members working outside the community. The value of materials communities could purchase with fixed GoBifo grants was less given the very high transport costs incurred in bringing the materials to the communities (a concern raised by GoBifo staff). For these reasons we might expect differential program impacts in more remote areas.
- Community size
  - In our discussions with GoBifo field staff, many indicate that they believe smaller population villages are often better able to adopt the GoBifo model to achieve local collective action than larger population villages, an issue we can test explicitly in the data. The classic work of Mancur Olson (1961) and many public economics authors on local collective and public good free-riders would predict this same pattern.

#### Set 2: Other interaction variables of interest

- War exposure
 

Violence and trauma experienced during the recent conflict has affected levels of trust in communities and collective action. War-related displacement and the introduction of strangers into communities also have impacts. Destruction of infrastructure during the war reduced the stock of community resources and may influence community choices under GoBifo. We will estimate heterogeneous treatment effects of GoBifo, namely, whether a community driven development project can mitigate any negative conflict effects, and magnify any positive conflict legacies, by testing for interaction effects between treatment variables and measures of war and violence exposure. Two different hypotheses suggest that impacts could either be more or less pronounced in war exposed communities, and we will test both.

This will entail examining the outcome measures for in the above 11 hypotheses (H1-H11) while testing for significant interaction effects between the program treatment

indicator with indices of war and violence exposure similar to those used in Bellows and Miguel (2008). The direction of these effects could go either way:

- A widely heard argument about war exposure advances that collective action capacity and trust will be lower in communities more exposed to violence during the war. (The relevant variables are found in the HH, Village and Gift modules, as listed above.)
- The findings of Bellows and Miguel (2008) and Blattman (2008) suggest the opposite, namely that communities exposed to violence during the Sierra Leone war and the Ugandan war, respectively, may actually have more trust and capacity for collective action. (The relevant variables are found in the HH, Village and Gift modules, as listed above.)
- Ethno-linguistic fractionalization
  - Collective action is plausibly more difficult to achieve in diverse communities (Easterly and Levine, 1997), and may also be more difficult where there are a higher concentration of “strangers” (those born outside the community).
- Measures of chiefly authority
  - Collective action and free rider problems are plausibly more easily overcome with strong chiefs who can encourage household contributions.
- Fraction of individuals whose ancestors were slaves
  - At the household level, slave descent is arguably an indicator of socio-economic marginalization. At the village level, divisions and resentments between formerly slaves and former slave-owning families may make collective action more difficult. Cross-country research (Nunn 2008) finds that countries with slave histories have worse institutional and economic performance.

### **III. Hypotheses**

For each hypothesis, the following section lists the specific indicators to be analyzed (separately and as a group using mean effects) and whether panel data or only endline data is available for that indicator. For some hypotheses, this section identifies a primary set of indicators that most directly relate to and are most likely to be impacted by the project, and also lists a more speculative secondary set that tie less directly to program objectives to be tested separately. Note also that several indicators below are conditional—for example, measuring contributions to a public good given the fact that the public good exists in the community—and thus may apply to only a small sub-sample of observations. As the reduction in sample size decreases statistical precision, and in some cases may fall below the minimum size necessary to detect statistically significant effects, the mean effects analysis will be run with and without these conditional indicators as appropriate. Such small sample constraints will also be considered when interpreting the effects of conditional indicators on their own in the single outcome regression specifications. These concerns about conditionality and sample size apply to all indicators below whose description begins with the word “given.”

#### **H1: Participation in GoBifo increases trust.**

Household Level outcomes (all panel data):

- Stated respondent “trust” in other individuals (believe in them or have to be careful), and specific groups of individuals, such as community members, people from other villages, chiefdom officials, police, local councilors, central government officials,

NGO/donor projects, is higher in GoBifo treatment villages (HH module, G5A through G5G).

- Treatment households are more likely to be a member of at least one osusu (savings group) (HH module, F1A and F1B)
- Hypothetically, if someone in the household left his or her wallet at a community meeting, he or she believes it will be there upon return (HH module, G1).
- In reality, if someone in the household has left his or her wallet at a community meeting and returned to find it (HH module, G2).
- Hypothetically, if someone in the household could not travel to market, he or she would entrust a community member to buy it for them (HH module, G3).
- In reality, someone in the household was not able to travel to market and entrusted a community member to buy it for them (HH module, G4).

(Testing this and other hypotheses also includes identifying interaction effects, as discussed in section IIB above.)

## **H2: Participation in GoBifo increases collective action and contribution to public goods.**

Household Level outcomes (all panel data save the last two concerning the gift experiment):

- Among farming households, households in treatment villages are more likely to work on communal farms (HH module, D12).
- Given that households work on a communal farm, treatment households do so more frequently (HH module, D12A).
- Treatment households are more likely to brush (clean) the road in their communities (HH module, F11).
- Treatment households are more likely to give money to local school associations (PTA, CTA, SMC) (HH module, F3G).
- Treatment households are more likely to contribute labor to local school associations (PTA, CTA, SMC) (HH module, F3H).
- In treatment communities, households think the community will be able to raise more funds for the vouchers (HH module, E13)
- In treatment communities, households report that they themselves will contribute more to the building materials vouchers (HH module, E14)
- Given membership in each of the following groups—osusu (savings group), labor sharing gang, school PTA, social club, religious group, savings for events, traditional society—treatment households are more likely to contribute financially and with their own labor (HH module, F1-7g and F1-7h)

Community Level outcomes:

Primary (all panel save the first two regarding the voucher experiment)

- Treated communities are more likely to redeem the building materials vouchers (Gift experiment)
- Given that the community redeemed any building materials vouchers, treated communities will raise and spend more funds in the store (Gift experiment)
- Treated villages are more likely to have had a VDC since 2006 than control communities (Village module, G17).
- Treatment communities are more likely to have taken a project proposal to an external funder (Village module, H9).

- Treatment communities are more likely to have communal farms (Village module, F1).
- Treatment communities are more likely to have a community teacher (Village module, E1).
- Given that the community has a community teacher, treatment communities are more likely to have him trained (Village module, E2).
- Given that the community has a community teacher, treatment communities are more likely to provide incentives in food, cash, or providing work in their farm (Village module, E3A, E3B, E3C).
- Given that the community provides incentives to the community teacher in cash, the amount provided in treatment communities is higher (Village module, E3B1).
- Given that a particular asset exists in the community, for each public asset treated communities are more likely to have provided some of their own funds for its construction (Village C1d-C16d)

Secondary (all panel save the last four indicators regarding maintenance)

- Given that the community has a community teacher, if someone in the community was supposed to contribute and didn't, treatment communities are more likely to take collective action to convince him/her (Village module, E7A through D).
- Given the presence of a primary school in the community, treatment communities are more likely to have formal maintenance plans for local primary schools than controls (Village module, D1 Da).
- Given the presence of a latrine in the community, treatment communities are more likely to have formal maintenance plans for local latrines than controls (Village module, D2 Da).
- Given the presence of a drying floor in the community, treatment communities are more likely to have formal maintenance plans for the drying floor than controls (Village module, D3 Da).
- Given the presence of at least one water well in the community, treatment communities are more likely to have formal maintenance plans for local water wells than controls (Village module, D4).

### **H3: Participation in GoBifo improves the quality and quantity of local public services infrastructure.**

Community Level outcomes:

Primary (all panel data)

- Treatment communities have more/higher quality primary schools than controls (Village module, C1B and C1C; K10A through K10D).
- Given that the community has a primary school, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C1D)
- Treatment communities have more/higher quality public health units (community health centers, community health posts, maternal & child health post) than controls (Village module, C3B, C3C, C3AB).
- Given that the community has a public health units (community health centers, community health posts, maternal & child health post), a higher share of treatment

- communities provide community funds to it (completely or partially) (Village module, C3D)
- Treatment communities have more/higher quality water wells (manual or mechanical wells) than controls (Village module, C4B, C4AB, C4BB; K13A through K13D).
  - Given that the community has a well, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C4AC, C4BC).
  - Treatment communities have more/higher quality drying floors than controls (Village module, C7B and C7C).
  - Given that the community has drying floors, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C7D).
  - Treatment communities have more/higher quality communal grain stores than controls (Village module, C8B and C8C; K12A through K12D).
  - Given that the community has drying floors, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C8D).
  - Treatment communities have more/higher quality community centers than controls (Village module, C10B and C10C).
  - Given that the community has community centers, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C10D).
  - Treatment communities have more/higher quality palava huts than controls (Village module, C11B and C11C).
  - Given that the community has palava huts, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C11D).
  - Treatment communities have more/higher quality court barriers than controls (Village module, C12B and C12C).
  - Given that the community has court barriers, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C12D).
  - Treatment communities have more/higher quality markets (Village module, C14B and C14C; K11A through K11D).
  - Given that the community has markets, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C14D).
  - Treatment communities have more/higher quality latrines than controls (Village module, C15B and C15C).
  - Given that the community has latrines, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C15D).
  - Treatment communities are more likely to recently have taken a development project to an external funder (Village module, H9).

Secondary (all panel save the last five regarding maintenance)

- Treatment communities have more/higher quality secondary schools than controls (Village module, C2B and C2C).
- Given that the community has a secondary school, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C1D)
- Treatment communities have more/higher quality mosques/churches than controls (Village module, C5B, C5C, C6B, C6C).

- Given that the community has a mosque/church, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C5D, C5D).
- Treatment communities have more/higher quality children's centers than controls (Village module, C9B and C9C).
- Given that the community has children's centers, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C9D).
- Treatment communities have more/higher quality cassava greater/garri processors than controls (Village module, C13B and C13C).
- Given that the community has cassava greater/garri procesors, a higher share of treatment communities provide community funds to it (completely or partially) (Village module, C13D).
- Given the presence of a primary school in the community, treatment communities are more likely to have formal maintenance plans for local primary schools than controls (Village module, D1 Da).
- Given the presence of a latrine in the community, treatment communities are more likely to have formal maintenance plans for local latrines than controls (Village module, D2 Da).
- Given the presence of a drying floor in the community, treatment communities are more likely to have formal maintenance plans for the drying floor than controls (Village module, D3 Da).
- Given the presence of at least one water well in the community, treatment communities are more likely to have formal maintenance plans for local water wells than controls (Village module, D4).
- Given that the community has recently implemented at least one development project, treatment communities are more likely to have formal maintenance plans for them (Village module, H2 through H8, part f).

#### **H4: Participation in GoBifo builds and strengthens community groups and networks.**

Household Level outcomes (first 9 indicators are panel data, remaining 7 appear in endline only):

- Treatment households are more likely to have attended to church/mosque in the last month (HH module, F9)
- Treated households are likely to offer higher cash contributions to the church/mosque (HH module, F10).
- Given that they needed to re-thatch their roof, treatment households are more likely to have received help from other members of the community (HH module, F12A).
- Treatment households are more likely to have helped neighbor re-thatch roof (HH module, F13).
- Treatment households are more likely to be a member of at least one osusu (savings group) (HH module, F1A and F1B).
- Given membership in osusus (savings groups), treatment households are more likely to have attended a meeting in past four weeks, contribute more to them (financially and with labor) (HH module, F1F, F1G, F1H).
- Treatment households are more likely to be a member of at least one school PTA/CTA or SMC (HH module, F2A and F2B).

- Given membership in a school PTA/CTA or SMC, treatment households are more likely to have attended a meeting in past four weeks, contribute more to them (financially and with labor) (HH module, F3F, F3G, F3H).
- Treatment households are more likely to be a member of at least one social club (sports, dances, activities) (HH module, F4A and F4B).
- Given membership in a social club (sports, dances, activities), treatment households are more likely to have attended a meeting in past four weeks, contribute more to them (financially and with labor) (HH module, F4F, F4G, F4H).
- Treatment households are more likely to be a member of a religious group (not only attending to church/mosque) (HH module, F5A and F5B).
- Given membership in a religious group (not only attending to church/mosque), treatment households are more likely to have attended a meeting in past four weeks, contribute more to them (financially and with labor) (HH module, F5F, F5G, F5H).
- Treatment households are more likely to be a member of group savings for major events (weddings, funerals) (HH module, F6A and F4B).
- Given membership in group savings for major events (weddings, funerals), treatment households are more likely to have attended a meeting in past four weeks, contribute more to them (financially and with labor) (HH module, F6F, F6G, F6H).
- Treatment households are more likely to be a member of a traditional society (HH module, F7A and F7B).
- Given membership in a traditional society, treatment households are more likely to have attended a meeting in past four weeks, contribute more to them (financially and with labor) (HH module, F7F, F7G, F7H).

#### **H5: Participation in GoBifo increases access to information about local governance.**

Household Level outcomes (all panel data save the first two regarding the gift choice):

- Households in treatment communities are more likely to attend meetings to discuss the gift choice (HH module, E1).
- In treatment communities, a higher proportion of households know what were the two gift options (E2) and a higher proportion knows which gift was chosen (E3) (HH module).
- Treatment households more likely to correctly name their Local Councilor (HH module, I1).
- Treatment households more likely to correctly name their Local Council chairperson (HH module, I2).
- Treatment households more likely to correctly name their Section Chief than controls (HH module, I3).
- Treatment households more likely to correctly name their Paramount Chief (HH module, I4).
- Treatment households more likely to know when the next general elections are going to be held (HH module, I5).
- Treatment households more likely to correctly identify the amount adults are supposed to pay in local tax (5000 or 2000 Leones, depending on the situation) (HH module, I6).
- Treatment more likely to know who spends market dues (chief or local council) (HH module, I7A).

- Treatment households more likely to know about local council projects than controls (HH module, I8).
- Treatment households more likely to obtain information on politics through alternative channels (i.e., radio), rather than relying on local authorities (chief/village headman, Local Council/WDC, other community leaders) for information (HH module, 9).

Community Level outcomes (all panel save the last one regarding Paramount Chief visits):

- Treatment communities more likely to publicly display awareness campaign posters, financial information, development plans, minutes from a meeting, government policies, rights, etc., or election/voting information (Village module, K5A through K5F).
- Treatment communities more likely to get visits from Ward Development Committee members (Village module, G7).
- Treatment communities more likely to get visits from Local Council member (Village module, G8).
- Treatment communities more likely to get visits from the Paramount Chief (Village module, G10).

As GoBifo explicitly sought to improve linkages with the Local Councils, a sub-hypothesis relating to this is that knowledge about Local Councils increased even if other information about governance did not increase. We will therefore also run the above with only the indicators related to Local Councils and Ward Development Committees.

**H6: GoBifo increases inclusion and participation in local planning and implementation, especially for poor and vulnerable groups; GoBifo norms spill over into other types of community decisions, making them more inclusive, transparent and accountable**

Household Level outcomes (first 3 endline only, others panel):

- Treatment households more likely to have attended the community meeting to decide what gift to choose (HH module, E1).
- In treatment communities, a higher proportion of women and youth respondents report attending the community meeting to decide what gift to choose (HH module, E1).
- Given attendance at the meeting to decide on the gift, treatment households more likely to speak publicly (HH module, E6).
- In a hypothetical situation, more treated households agree that if someone from outside comes to the community and wants to do a project, the best thing to do is to take a democratic decision (discuss as a community, or have a vote), rather than allow the village authorities to decide (HH module, K13).
- Given membership in each of the following groups—osusu (savings group), labor sharing gang, school PTA, social club, religious group, savings for events, traditional society—treatment households are more likely to have attended a meeting in past four weeks (HH module, F1-7f).
- Treatment households more likely to attend community meetings (HH module, H1).
- Given meeting attendance, treatment households more likely to make speeches, comments, or suggestions (HH module, H1B).

- Given that the community has community teachers, treatment households are more likely to go to meetings to decide what to give to the teachers as payment (HH module, H2A2).
- Given attendance at community teacher meetings, treatment households are more likely to make speeches, comments, or suggestions (HH module, H2AI).
- Given membership in a communal farm, treatment households are more likely to attend a meeting to decide what to plant (HH module, D12b).
- Given attendance at communal farm meeting, treatment households more likely to make comments (HH module, D12bi).

For the next 4 primary indicators, we expect that GoBifo will influence communities to take decisions in a more democratic fashion and for respondents to report that this is so; however, we acknowledge that GoBifo might make participants more aware of authority and thus more likely to express criticism of perceived inequities in voice (all endline only).

- Treatment households more likely to describe how the gift decision was made as more democratic (HH module, E7).
- Treatment household more likely to report that everyone had equal say in the gift decision (HH module, E8).
- Treatment household more likely to report that everyone will have equal say in how to use the tarp (HH module, E10).
- In a hypothetical situation, treatment households are more likely to agree that if the big ones in the community wanted salt and everyone else batteries, they will choose the latter (HH module, E5).

Community level outcomes:

Primary outcomes (all indicators endline only)

- Treated communities have higher participation in meetings to determine the allocation and use of village resources, relative to control communities (Gift module, A1/5, B1/7, C1/5).
- Members of treatment communities participate more actively in the gift choice (Gift module, S1, D1)
- More women and youth in treatment communities attend to community meetings to determine the allocation and use of village resources, relative to control communities (Gift module, A1/5, B1/7, C1/5).
- Women and youth in treatment communities are more active in community meetings held to determine the allocation and use of village resources, relative to control communities (Gift module, D1A and D1B, S1A and S1B).
- Decisions about the allocation and use of village resources is more likely to include a vote in treatment communities (Gift module, question S12 and S7D).
- The deliberation is likely to be more inclusive in treatment communities: more public debate (S7A), less public discussion among opinion leaders (S7B) (Gift module).
- In treatment communities, the decision about the gift was done in a more democratic way, with 1 being the least democratic, and 5 being the more democratic (Gift module, S8, D3, A6, B8, C6).
- In treatment communities, it is less likely to have a group leave the meeting to discuss separately (“hanging heads”) (Gift module, S7C and S11)
- In treatment communities, given that there was a hanging heads, the “hanging head” group is more inclusive (Gift module, S11A, with 1 being less inclusive and 3 more inclusive, drop 4; higher proportion of women and youth included A2-4, B3-5, C2-4).

- In treatment communities, it is more likely to have women play a relatively more important role, compare to men (Gift module, S28, A7, D5, 5 being better).
- In treatment communities, it is more likely to have youth play a relatively more important role, compare to non-youth (Gift module, S29, C7, D6, 5 being better).
- Treatment communities are expected to have longer meetings (Gift module, B2/B6)
- In treatment communities, gift choice is more likely to reflect the view of the majority of household respondents (Gift S2 and HH module C8)

Secondary outcomes (all indicators endline only save the last few regarding community teachers, communal farms and presence of a VDC, which are panel)

- In treatment communities, people are more likely to take minutes during the meeting (Gift module, S9).
- In treatment communities, it is more likely to have facilitation (Gift module, S10).
- Given that there is a facilitator, it is less likely to be a traditional authority, and/or more likely to be a woman or a youth in treatment communities (S10D).
- In treatment communities, non-traditional leader, or youth or woman is more likely to announce the final decision of the meeting in treatment communities (Gift module, S13).
- In treatment communities, non-traditional leader, or youth or woman is more likely to accept the cards in treatment communities (Gift module, S14).
- In treatment communities, it is more likely that opinions were publicly expressed (Gift module, S15).
- In treatment communities, more different opinions were expressed (Gift module, a higher proportion of S15A through S15D is YES).
- In treatment communities, at least one woman is more likely to publicly express her opinion in the meeting (Gift module, S15F).
- In treatment communities, at least one youth is more likely to publicly express his/her opinion in the meeting (Gift module, S15G).
- In treatment communities, more of the public discussion is dedicated to a logical argument (Gift module, S17, 5 being better).
- In treatment communities, more of the public discussion is dedicated to how the gift will be distributed (Gift module, S18, 5 being better).
- In treatment communities, more of the public discussion on how the tarpaulin will be used (Gift module, S19, 5 being higher).
- In treatment communities, there is more discussion of how to raise money for the cards (Gift module, S20, 5 being better).
- In treatment communities, it is more likely to have mentioned the VDC during the discussion (Gift module, S21).
- In treatment communities, it is more likely that village authorities actively reach out to women during the meeting (Gift module, S22).
- In treatment communities, it is more likely that village authorities actively reach out to youth during the meeting (Gift module, S23).
- In treatment communities, the discussion is likely to be less concentrated (Gift module, S24, 4 being less concentrated).
- In treatment communities, participants were more likely to appear more satisfied with the outcome of the deliberation (Gift module, S27).
- No expectation on whether treatment communities would choose salt or batteries.

- Treatment communities held a community meeting more recently (Village module, G15)
- Given that they held a meeting, treatment communities more likely to record minutes (Village module, G15C).
- Treatment communities more likely to have a VDC since 2006 (Village module, G17)
- Given presence of a VDC, treatment communities have a higher proportion of women and youth members (Village module, G18)
- Given that the community has community teachers, treatment communities more likely to have a meeting to decide how much to pay them (Village module, E4).
- Given that the community has community teachers, treatment communities more likely to report that everyone had equal say in deciding how much to pay them (Village module, E4).
- Given that the community has communal farm, treatment communities more likely to have a meeting to decide what to plant (Village module, F2i).
- Given that the community has communal farm, treatment communities more likely to keep paper records about farm proceeds (Village module, F2l).

### **H7: GoBifo increases public participation in local governance and politics**

Household level outcomes (first 7 panel, last 4 endline only):

- Treatment households are more likely to have voted in the last general Presidential election (2007) (HH module, J2 and J3, verify with punch J5 and J6).
- Treatment households are more likely to have voted in the last local government elections (2008) (HH module, J4, verify with punch J7).
- Treatment households more likely to have attended a local council meeting or had direct contact with the local councilor (HH module, J16).
- Treatment households more likely to have attended a WDC meeting or had direct contact with a WDC member (HH module, J20).
- Treatment households more likely to believe they can change an unjust local council policy (HH module, J8).
- Treatment households more likely to think they can change an unjust chiefdom policy (HH module, J9).
- If not a member, treatment respondents are more likely to want to become a member of the VDC (HH module, J1a).
- Treated households are more likely to discuss politics with someone of the community more often (HH module, K11, 1 more often, 5 never).
- Treatment households more likely to agree that the local council listens to what people say or need (HH module, J17).

Community level outcomes (all panel save the last indicator):

- Treatment communities are more likely to have someone standing in the Paramount chief elections than control communities (Village module, G3).
- Treatment communities are more likely to have someone standing in the Section chief elections than control communities (Village module, G4).
- Treatment communities are more likely to have someone who contested the party symbol than control communities (Village module, G5).
- Treatment communities are more likely to have someone running for the Ward development committee than control communities (Village module, G6).

- Treatment communities more likely to have a VDC since 2006 (Village module, G17)
- Given presence of a VDC, treatment communities have a higher proportion of women and youth members (Village module, G18)

### **H8. By increasing trust, GoBifo reduces crime and conflict in community**

Household level outcomes (first 3 endline only, last 4 panel):

- Households in treatment communities are more likely to agree that the use of violence is never justified in politics (HH module, K1).
- Households in treatment communities are more likely to agree that husbands don't have the right to beat their wives (HH module, K3).
- Households in treatment communities are less likely to agree that in order to raise a child properly, you have to beat him/her (HH module, K7).
- Households in treatment villages have less reported personal conflicts over loans or other money issues (HH module, L1).
- Given that the household had a problem over a money business, treatment households are less likely to be engaged in personal violence or fighting (HH module, L1C).
- Treatment households experience less theft of household items, money or livestock (HH module, L4 through L7).
- Treatment households experience fewer witchcraft crimes (HH module, L8).

### **H9: GoBifo changes local systems of authority, including roles and public perception of traditional versus local government**

Household level outcomes (first 7 endline only, last 3 panel):

- Members of traditional authority (chiefly) households in treatment communities have less influence in community decision-making, in particular, in the Gift module choice between salt and batteries, and in how the tarpaulin gift is to be used (HH module, E7, E8, E10).
- In treatment communities, it is more likely that households agree that the tarpaulin should be stored in a public space (HH module, E12 options 2, 3, or 4).
- Given that the tarpaulin was stored in a private residence, it is more likely that it was not stored in the residence of a traditional authority (HH module, E12A).
- Treatment community respondents are more likely to agree that citizens should question the actions of leaders, rather than having more respect for authorities (HH module, K2)
- Treatment community respondents are more likely to agree that responsible women or youth can be good leaders and should be encouraged to stand in elections (HH module, K5).
- In a hypothetical situation, more treated households agree that if someone from outside comes to the community and wants to do a project, the best thing to do is to take a democratic decision (discuss as a community, or have a vote), rather than allow the village authorities to decide (HH module, K13).
- Treatment households are less likely to resolve disputes/conflict through traditional authorities (HH module, L2A through L2J).

For the next two primary indicators, note that GoBifo did not aim to diminish the influence of traditional authorities and thus these are research questions only and not explicit program objectives (see note on page 1).

- In treated communities, relative to control, households are more likely to have a higher level of trust and confidence in Local Councils as compared to traditional chiefdom authorities (G5e vs. G5c, J12 vs. J17)
- In treated communities, households have feel that Local Council officials listen to them more as compared to traditional chiefdom authorities (J13 vs. J18)

#### Secondary (panel)

- Given that the respondent had a conflict with someone over a loan or other money business, treatment households are less likely to resolve it through traditional authorities (HH module, L1B).

#### Community level outcomes:

- Given that the community has a community teacher, in treatment communities the most influential person in the decision on how much to pay him/her was not one of a traditional authority (Village module, E5).
- Given that the community has a community teacher, if someone was supposed to contribute and didn't, in treatment communities it is less likely that they report him to the chief (Village module, E7C and E7D).
- In treatment communities the chief and local elders do not make decisions about the allocation and use of village resources without taking into account input from other community members (Gift module).
- Treatment communities are more likely to take a vote on decisions regarding the allocation and use of village resources (Gift module).
- In treatment communities, it is less likely that the chief or elders decide about the gift without consulting the rest of the population (Gift module, A6, B8 ,C6, D3).

### **H10: Participation in GoBifo improves general economic welfare**

Household Level outcomes (first 3 include a mix of panel and endline indicators, last 4 are endline only):

- Proxies for household income – assets measures (based on principal components analysis) and estimated household consumption – are higher for treatment households (HH module, C7 through C14).
- Treatment households move into higher economic quintiles relative to entire sample of treatment and control villages (HH module, C7 through C14).
- Treatment households have more diverse sources of income (D1-D3, section A).
- Treatment households generate more income (D1-D3, section b).
- A higher proportion of households market their agricultural production (D7 through D11B).
- Given that they market their agricultural goods, treatment communities have higher revenue (D7 through D11C).
- Children in treatment households spend more days in school in the last week than children in control households (HH module, C17 through C23).

#### Community Level outcomes (both panel):

- Treatment communities are more likely to have petty merchants selling packaged goods (cigarettes, crackers, etc) than control communities (Village module, K6).

- Treatment communities are more likely to appear better off than other communities visited in their area (Village, K14)

**H11: GoBifo changes political and social attitudes, making individuals more liberal towards women, more accepting of other ethnicities and “strangers”, and less tolerant of corruption and violence.**

Household Level outcomes (first two panel, rest endline only):

- Given membership in osusus (savings groups), treatment households are more likely to participate in co-ed groups, groups in which youth and non-youth are together, and/or groups in which members of other tribes also participate (HH module, F1B, F1C and F1D).
- Given membership in labor sharing gangs, treatment households are more likely to participate in co-ed gangs, labor gangs in which youth and non-youth are together, and/or labor gangs in which members of other tribes also participate (HH module, F2B, F2C and F2D).
- Given membership in social clubs (sports, dances, activities), treatment households are more likely to participate in co-ed associations, associations in which youth and non-youth are together, and/or associations in which members from other tribes also participate (HH module, F4B, F4C and F4D).
- Given membership in religious groups (not just going to church/mosque), treatment households are more likely to participate in co-ed associations, associations in which youth and non-youth are together, and/or associations in which members from other tribes also participate (HH module, F5B, F5C and F5D).
- Given membership in group savings for major events (weddings funerals, etc), treatment households are more likely to participate in co-ed associations, associations in which youth and non-youth are together, and/or associations in which members from other tribes also participate (HH module, F6B, F6C and F6D).
- Given membership in traditional societies, treatment households are more likely to participate in associations in which youth and non-youth are together, and/or associations in which members from other tribes also participate (HH module, F7B, F7C and F7D).
- Treatment households are more likely to report that it is not right to abuse one's wife (HH module, K3).
- Treatment households are more likely to agree that responsible young people can be good local leaders (HH module, K4).
- In treatment communities, household members are more likely to agree that women can be good politicians, and they should be encouraged to stand in elections (HH module, K5).
- Treatment individuals express less tolerance of violence and corruption (HH module, K6).
- Treatment households are more likely to agree that responsible people can be good leaders, even if they are not originally from their community (HH module, K8). In treatment communities, household members are less likely to agree that local leaders have the right to force people to work for the community (HH module, K9)
- In treatment communities, household members are more likely to agree that local leaders treat youth with respect (HH module, K10).

Community Level Outcomes:

- Given that the community has a community farm, youth, women and members of other villages are more likely to work in the farm, whereas children are less likely to work on them (Village module, F2A, F2B, F2C, F2D).