Reconciliation in Sierra Leone:
Fambul Tok Analysis Plan

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1   Introduction

This document outlines a pre-analysis plan for evaluating a post-conflict reconciliation project in Sierra Leone (SL), implemented by Fambul Tok, a local NGO. It pre-commits the authors to testing the hypotheses listed, using the empirical approach detailed below.

The intervention and data collection were rolled out in three waves, as explained below. Our analysis will thus also proceed in three waves, as new waves of data become available. This plan has been written prior to analysis of wave one endline data and collection of endline data for the other rounds. It will apply to our analysis of wave one data, and updated plans will be used for analysis of the remaining rounds.

Section 2 provides an overview of the project, including the intervention and sampling design. Section 3 presents the empirical strategy, including the methodology and specifications. Finally, Section 4 specifies the hypotheses we will test in evaluating the program, as well as the variables within each hypothesis.

2   Project overview

2.1   Intervention

Fambul Tok ("family talk" in Krio) is a Sierra Leonean NGO that aims to promote post-conflict reconciliation by means of traditional forms of mediation and conflict resolution. The program

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began in 2007, and operates in five of Sierra Leone's 13 districts. We are conducting a randomized controlled trial to analyze how this intervention affects individuals and communities on a wide range of outcomes including psychological wellbeing, social capital formation, economic cooperation, and conflict within the community.

The cornerstone of the Fambul Tok program is a reconciliation bonfire ceremony, which is organized to facilitate the airing of wartime grievances. Victims share their stories and perpetrators seek—and on many occasions receive—forgiveness for crimes committed during the nation's thirteen-year civil war. The ceremony is combined with traditional and religious rituals, including prayers, dancing, and a 'cleansing' ceremony. The intervention is targeted at the level of a section, which are contiguous clusters of up to ten villages. Thus, several villages participate in a joint ceremony.

The program also involves a number of communal activities which are designed to build social capital and encourage community members to work together. First, the ceremony is preceded by three months of community sensitization. During this period, Fambul Tok establishes a Reconciliation Committee, through which community members and leaders work with the NGO in planning and publicizing the ceremony. In addition, Fambul Tok helps establish communal farms, where labor and output are shared, on land set aside by the community as a pledge towards reconciliation; a 'Peace Tree', that provides a focal point for the community to gather and resolve disputes; and a 'Peace Mothers' group, that seeks to promote women's economic activities and facilitate discussion of atrocities perpetrated during the war.

The Fambul Tok treatment could in principle have positive or negative effects. For example, it could be therapeutic for victims to share their accounts of trauma or forgive their perpetrators, which could in turn improve individual well-being, strengthen social networks with community members, lower conflict and lead to greater economic cooperation. Conversely, the reconciliation process could cause individuals to relive traumatic memories, lower their willingness to work with other villagers, and reduce their willingness to contribute to community public goods. Whether the net effect is positive or negative is an empirical question, which the field experiment aims to answer.

2.2   Experimental design

We evaluate the program via a randomized field experiment. First, Fambul Tok identified 160 sections that were willing to receive the treatment—32 sections in each of five different districts in Sierra Leone (Bombali, Kailahun, Koinadugu, Kono, and Moyamba). These sections represent communities that (a) were severely affected by conflict, and (b) saw possible benefits from the Fambul Tok intervention. The experimental design required half (80 sections) to receive the Fambul Tok treatment, with the other half acting as a control group.

Data collection and project implementation has been designed to take place in three waves over 2011-2013. The first wave included 40 sections (with 8 sections per district), while the second and third waves include 60 sections each (with 12 sections per district). During each wave, we created matched pairs, stratified by district. Thus, there were 4 pairs per district in the first wave and 6 pairs per district in the second and third waves. Matching was based on an "optimal greedy algorithm" [Imai et al., 2009], which minimizes the Mahalanobis minimum distance between the value of baseline covariates [Greevy et al., 2004]. The randomization assigned sections into treatment and control status, by means of a public lottery conducted for each wave.

We collected data in two villages in each section. One village was the section headquarter, which was typically where the reconciliation ceremony took place. During wave one, for example, the section headquarter hosted the ceremony in 18 of the 20 treatment sections. The other village was randomly chosen from the remaining villages in the section, provided to us by Fambul Tok.

Two rounds of surveys were conducted in each village, a baseline prior to the intervention and an endline after the intervention. Both rounds included a household survey of 12 respondents aged 24 and above, who were randomly sampled in-field. Since the household survey includes both household and individual level questions, this in-field randomization occurred in two phases: first, 12 households were randomly chosen, and then an individual respondent was randomly selected from each household. A village-level survey was also conducted in both the baseline and endline rounds. In the remainder of the plan, questions from the village survey are denoted by 'VS' within parentheses. All other questions come from the household survey, with letters in the parentheses corresponding to specific sections within this survey.

In waves two and three, we also intend to supplement survey-based measures of outcomes with lab-in-the-field behavioral experiments, which would be carried out alongside endline data collection.

3 Empirical strategy

3.1 General setup

Based on this experimental design, the most general empirical strategy that we use to estimate the impact of the intervention on mean outcomes is

$$y_{isvp} = \beta_0 + \beta_1 T_s + \rho_p + \mathbf{Z}'_{ivsp}\Gamma + \mathbf{X}'_{vsp}\Phi + \varepsilon_{ivsp} \tag{1}$$

where y_{ivsp} is the outcome for individual i in village v, section s and section-pair p; T_s is the treatment dummy; ρ_p is the section-pair fixed effect; ε_{ivsp} is the random error term, clustered

at the section level (the unit of treatment allocation). $\mathbf{Z}_{ivsp}$ and $\mathbf{X}_{vsp}$ are an additional set of individual and village level controls. The section-pair fixed effect accounts for section-level matching in the allocation of treatment [Bruhn and McKenzie, 2009]. In addition we will also report some specifications with language-group fixed effects, to account for the high degree of linguistic heterogeneity in Sierra Leone.

For indicators that were collected in both the baseline and endline, we exploit the panel structure by looking at the impact of the treatment on a change in outcomes:

$$y_{ivspt} = \beta_0 + \beta_1 T_s + \beta_2 P_t + \beta_3 \left(T_s \times P_t\right) + \rho_p + \mathbf{Z}'_{ivsp}\Gamma + \mathbf{X}'_{vsp}\Phi + \varepsilon_{ivspt} \qquad (2)$$

where y_{ivspt} is the outcome at time $t \in (0, 1)$, the data collected before and after the treatment. P_t is the post-treatment dummy. The village and individual level controls are not expected to change over time.[1]

In addition, some outcome measures are at the village level, in which case y_{ivsp} and y_{ivspt} will be replaced by y_{vsp} and y_{vspt}, respectively. Finally, although our main results are based on comparison of means, we will also test for a change in distributions across treatment and control, such as with the Kolmogorov–Smirnov test [Kolmogorov, 1933, Smirnov, 1933].

3.2 Heterogeneous treatment effects

Fambul Tok's impact may vary based on household and village-level characteristics. Since the reconciliation ceremony specifically targets individuals who were victims and perpetrators of violence, ex-combatants and those who experienced more violence during the civil war may be differentially affected by the intervention. Similarly, the program may exert varying effects by gender, both because female war experiences differed owing to factors such as gender-based violence, and because aspects of the program, such as the 'Peace Mothers' group, are designed specifically to focus on women's issues. In addition, since the intervention aims to affect the community as a whole, it is plausible that entire villages that experienced higher levels of violence will respond differently to the intervention. Finally, the program's impact may differ based on the degree to which members of the village participated in the ceremony. This, in turn is likely to vary based on proximity to the ceremony location, which was almost always the section headquarter village.

We therefore test for interaction effects based on the following sub-groups:

1. Ex-combatants: both self-reported ex-combatants [**V09**], as well as respondents who re-

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[1]Due to technical survey programming issues, a proportion of the observations are missing from the wave one baseline village data. For variables with high degrees of missingness, we will draw on the endline survey for time-invariant village controls. In these instances, we will cross-check the results against the sub-sample for which we have baseline data.

ported being abducted [**V34**] and made to carry a gun [**V37**]

2. Individual exposure to violence based on whether the respondent was beaten, raped, maimed, abducted; or saw violence [**V01 V15 V16 V17 V34**].

3. Village-level exposure to violence, based on the following measures: buildings burned, rebel attacks, and rebel base in the village. [**VS: W1 W2 W4 W6**]

4. Gender. [**A05**]

5. Distance from section headquarter village. We will utilize a simple indicator of whether the village is the section headquarter, and also utilize geospatial measures of distance where they are available.

3.3   Attendance effects

The Fambul Tok treatment, including the bonfire ceremony, occurs at the section level. However, not all respondents attended the ceremony, and attendance is unlikely to be random. Thus, we will also use the section-level treatment as an instrument for individual-level attendance. In the case of the cross-sectional specification, the first stage equation in the instrumental variables estimation is:

$$A_{ivsp} = \alpha_0 + \alpha_1 T_s + \rho_p + \mathbf{Z}_{ivsp}\boldsymbol{\gamma} + \mathbf{X}_{vsp}\boldsymbol{\phi} + \varepsilon_{ivsp} \tag{3}$$

where $A_{ivsp} = 1$ if the individual attended the ceremony. The second stage is:

$$y_{ivsp} = \beta_0 + \beta_1 \widehat{A_{ivsp}} + \rho_p + \mathbf{Z}_{ivsp}\boldsymbol{\gamma} + \mathbf{X}_{vsp}\boldsymbol{\phi} + \varepsilon_{ivsp} \tag{4}$$

In the case of panel data, then the first stage equation is given by:

$$A_{ivspt} = \alpha_0 + \alpha_1 T_s + \alpha_2 P_t + \alpha_3(T_s \times P_t) + \rho_p + \mathbf{Z}_{ivsp}\boldsymbol{\gamma} + \mathbf{X}_{vsp}\boldsymbol{\phi} + \varepsilon_{ivspt} \tag{5}$$

while the second stage is:

$$y_{ivspt} = \beta_0 + \beta_1 \widehat{A_{ivspt}} + \beta_2 P_t + \rho_p + \mathbf{Z}_{ivsp}\boldsymbol{\gamma} + \mathbf{X}_{vsp}\boldsymbol{\phi} + \varepsilon_{ivspt} \tag{6}$$

4   Hypotheses

The hypotheses cover a broad range of ways that Fambul Tok could impact individuals and the community as whole: forgiveness and psychological well-being; war-related beliefs and atti-

tudes; incidences of conflict and conflict resolution mechanisms; social capital indicators such as network structure, trust and public goods provision; as well as economic indicators.

For each hypothesis, we list the specific indicators that will be analyzed separately, and as a group, using mean effects. For the mean effects analysis, we construct an aggregate index of the indicators within each hypothesis, as in Anderson [2008] and Kling et al. [2007]. Using this approach helps mitigate problems of over-rejection of the null hypothesis due to multiple inferences.

Hypothesis 1. *The Fambul Tok program was implemented according to stated objectives.*

Relevant indicators include:

1. The respondent has heard of Fambul Tok [**S01**].

2. The section held a bonfire ceremony [**S03**].

3. Fambul Tok established at least one [**S18**]

   (a) Community Farm
   (b) Peace Tree
   (c) Peace Mothers Group.

A. Forgiveness and psychological wellbeing

Hypothesis 2. *Fambul Tok affects levels of forgiveness among respondents who were hurt during the war.*

The impact on forgiveness will be assessed for three groups:

1. For all respondents who have experienced hurt in the past [**F01**].

2. For respondents who experienced hurt in the past and know the perpetrator [**F02**].

3. For respondents who experienced hurt in the past, know the perpetrator, and the perpetrator still resides in the village [**F03**].

We construct a forgiveness index: an aggregation of 12 questions [**F04B–F04K, F04M F04O**], based on a 4 point Likert scale, as is standard in the forgiveness literature. The questions are taken from the Rye et al. [2001] forgiveness scale and adapted to the SL context and the specifics of the intervention.

Hypothesis 3. *Fambul Tok affects individual psychological wellbeing.*

Psychological wellbeing will be measured using indicators of:

1. Post-Traumatic Stress Disorder (PTSD), as measured by the most recent edition of the Diagnostic Statistical Manual of Mental Disorders (DSM IV) check-list, adapted for the SL context [**F23 − F33**].

2. Anxiety, as measured by the Zung anxiety index [Zung, 1971], adapted for SL context. [**F06 − F15**].

3. Levels of depression, as measured by Zung depression index, adapted for SL context [**F16 − F22**].

Each of the three indicators will be constructed by aggregation of the questions indicated parenthetically, which are based on 4-point Likert scales, as is standard in the psychology literature.

B. Attitudes and beliefs

Hypothesis 4. *Fambul Tok affects individual attitudes towards ex-combatants.*

Relevant indicators include:

1. Change in the likelihood of believing that "those that did bad things in the past would do it again if they had the chance" [**T20**].

2. Change in the likelihood of believing that "people who joined the RUF are not responsible for what they did since they were drugged" [**T20**].

Hypothesis 5. *Fambul Tok affects individual attitudes towards war.*

Relevant indicators include:

1. Change in the likelihood of believing that people would fight in another war [**T22**].

2. Change in the likelihood of believing that people would be part of another rebellion [**T23**].

3. Change in the likelihood of becoming a fighter if there were another war [**T24**].

Hypothesis 6. *Fambul Tok affects individual attitudes towards gender.*

Relevant indicators include:

1. Change in the likelihood of believing that under certain circumstances, it is acceptable for a man to beat his wife [**P24 − P29**].

2. Change in the likelihood of believing that wife has right to express her own opinions (aggregate index, ranging from 1 to 18) [**P30**].

C. Conflict and conflict resolution

Hypothesis 7. *Fambul Tok affects incidence of conflict and crime within the community and between communities.*

Relevant indicators include:

1. Change in the total frequency of conflicts [**C01–C05**].

2. Change in the likelihood of being a victim of crime [**C52**] or violent crime [**C22**].

3. Change in the number of reported conflicts between villages [**VS: D01 D02**].

Hypothesis 8. *Fambul Tok affects conflict resolution, including whether conflicts are resolved satisfactorily and how they are resolved.*

Relevant indicators include:

1. Change in the proportion of reported conflicts that are satisfactory resolved [**C01F**].

2. Change in the proportion of reported conflicts that are resolved, satisfactorily or not [**C01E**].

3. Change in the proportion of reported conflicts that are resolved by "compromise between conflicting parties", rather than by a third party [**C01D**].

Hypothesis 9. *Fambul Tok affects the entrenchment of traditional sources of power.*

Relevant indicators include:

1. Change in the proportion of conflicts that are resolved by the village chief or elders [**C01 – C05**].

2. Change in the frequency of fines imposed by traditional authorities [**P11**].

D. Social capital

Hypothesis 10. *Fambul Tok affects the level of trust among community members.*

Relevant indicators include:

1. Change in self-reported trust in:

   (a) people in general [**T01**]

   (b) members of the community [**T02**]

   (c) former members of the Revolutionary United Forces (RUF) [**T18a**]

   (d) former members of the Civil Defence Forces (CDF) [**T18b**]

   (e) former members of the Sierra Leone Army (SLA) [**T18c**]

   (f) migrants [**T18d**].

2. Change in likelihood of believing that a purse, wallet, or money accidentally left out in public will not be stolen [**T07**].

3. Change in likelihood of believing that people in the community would betray each other [**T04**].

Hypothesis 11. *Fambul Tok affects social divisions and the inclusion of groups that have traditionally been marginalized.*

Relevant indicators include:

1. Change in the extent to which respondents feel that the community is divided between men and women; young and old; rich and poor; migrants and non-migrants [**T14**]. Likert scale based on self-reported degree of division, added across all the categories of divisions.

2. Change in the likelihood of the above mentioned differences having escalated into conflict in the past 6 months [**T15**]. Likert scale based on self-reported degree of division, added across all the categories of divisions.

3. Change in the likelihood of respondents feeling that a dominant group (elder, male, ruling family) will benefit more from a donation to the community [**P17 P19 P20**]. Sum number of groups that respondent feels that group will benefit more.

4. Change in the likelihood of respondents feeling that an excluded group (youth, poor, migrants, ex-combatants) will benefit less from a donation to the community [**P18; P21 - P23**]. Sum number of groups that respondent feels that group will benefit less.

5. Change in the number of respondents who are listed X or less times by other participants in social network questions [**S2 S3 S4 S5**]. The number X will be calculated from the control data to find the maximum number of connections that the bottom 10% of respondents have for each social networks question.

6. Change in subjective feelings of inclusion, measured by the likelihood of respondents feeling: (a) influential in decision-making [**P12**] (b) respected in the community [**P13**] (c) that people listen and concerns are heard [**P15**].

Hypothesis 12. *Fambul Tok affects the strength of networks within the community.*

Relevant indicators include:

1. Change in the number of people that respondent would hypothetically ask for help [**SN2**] or ask to go collect money for them [**SN1**]. Based on unprompted responses to social network questions.

2. Number of people that listed the respondent as someone they would ask to go collect money for them, share a farm boundary with, go to for advice, or consider a close friend [**S2 S3 S4 S5**]. Based on prompted responses to social network questions.

Hypothesis 13. *Fambul Tok affects the strength of group membership.*

Relevant indicators include:

1. Change in proportion of respondents who are members of:

   (a) Parent-Teacher Association (PTA) [**G04**]
   (b) Village Development Committee (VDC) [**G39**]
   (c) Youth group [**G57**]
   (d) Women's group [**G66**]
   (e) Secret society [**G48**]
   (f) Religious group [**G22**].

2. Change in likelihood of attending meetings of the above groups.

3. Chagne in likelihood of attending community meetings in general.

Hypothesis 14. *Fambul Tok affects the extent to which individuals contribute to public goods.*

Relevant indicators include:

1. Change in likelihood of having contributed money or labor to public facilities in the past six months [**P01 P02**].

2. Change in likelihood of having participated in road brushing in the past month [**P09**].

3. Change in the number of community projects that the community has worked on in the past six months [**VS: CA01 CA03**].

4. Change in the likelihood of giving money or food to someone in need in past three months [**P03**].

5. Change in the proportion of respondents who have contributed labor or money to:

    (a) Parent-Teacher Association (PTA) [**G08 G10**]

    (b) Village Development Committee (VDC) [**G43 G45**]

    (c) Youth group [**G16 G63**]

    (d) Women's group [**G70 G72**].

E. Economic activity and welfare

Hypothesis 15. *Fambul Tok affects market activity and economic cooperation within the community.*

Relevant indicators include:

1. Change in the frequency of borrowing [**E28 E32 E37 E42 E47 E52 E54**] and lending [**E01 E05 E10 E15 E20 E25 E27**] in the past three months.

2. Change in the total monetary value of borrowing [**E30 E35 E40 E45 E50**] and lending [**E03 E08 E13 E18 E23**] in the past three months.

3. Change in likelihood of being a member of an *osusu* (savings group) [**G02**].

4. Change in the number of traders in the community [**VS: E01**].

5. Change in the number of people who buy from traders in the community [**E55**].

6. Change in the number of communal farms [**VS: F03**].

7. Change in the likelihood of being a member of a labor gang [**G74**].

8. Change in the frequency of working on each others' farms [**F01 F03 F05 F07**].

Hypothesis 16. *Fambul Tok affects household economic welfare.*

Relevant indicators include:

1. Change in household asset ownership, as measured by an asset index using the principal component of asset ownership [**H06**].

2. Change in the likelihood of reporting problems in satisfying food/school fee/health care needs [**H19 − H22**]. Aggregate index, ranging from 1 to 20.

3. Change in reported satisfaction with the overall economic situation of the household compared to one year ago [**H23**].

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