Stabilizing the Postwar Environment in Burundi

Preliminary Results and Recommendations from a 2006 Pilot Survey

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In this paper, we describe preliminary results from a micro-level study of individual behavior during the1993-2005 civil war in Burundi. While the survey collected data on a variety of behaviors, including entering into and exiting from armed groups, armed group organization, and regional linkages, this paper will focus on the components of postwar stabilization: individual reactions to peacekeeping operations and the Disarmament, Demobilization and Reintegration Program.

We feel that the collection and analysis of micro-level data is a necessary step in the development of theories about the onset and termination of civil wars. Over the past ten years, political scientists have given increased attention to the causes and consequences of civil wars.[1] This increased attention may be attributable to two primary reasons: (i) political scientists' recognition that civil wars have been responsible for a larger number of deaths than interstate wars since 1945, and (ii) civil wars' superceding international conflict in global prevalence and thus being assigned as a priority on the post-Cold War security agendas of the US and major international organizations.[2] However, recent scholarship has tended to proceed in two ways: (i) cross-national statistical studies, focusing on country-level attributes, or (ii) descriptive case studies. While immensely valuable in their own ways, both approaches have led to an intellectual cul-de-sac in which once-promising findings have failed to be corroborated by subsequent studies.[3] For example, early findings that ethnic heterogeneity and an abundance of primary commodity exportables were important contributing factors to civil war have not withstood greater scrutiny.[4] Micro-level theories motivated the interest in both of these factors, but the focus on state-level attributes in empirical tests of these theories have glossed over micro-level variation essential for assessing whether they (and other causal mechanisms) are truly relevant.

Though the full-scale survey will not be completed until fall of 2007, this paper will summarize results and implications from our completed pilot project, which took place during the summer of 2006. During the pilot, the project team completed 359 closed-ended survey interviews throughout the country with ordinary civilians and "rank-and-file" former civil war combatants as well as a series of open-ended interviews with commanders and political leaders from all sides of the conflict. The pilot allowed us to pre-test over 200 survey questions and to clarify subtle points about participation, war termination, and reintegration in Burundi. The pilot study convinced us that this research is feasible and that it will make a major contribution, offering more precise insights on the dynamics of civil war onset, the termination of hostilities, and the consolidation of peace after conflict.

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[1] See Sambanis (2002) for a review of research trends.

[2] For discussion of these two macro-trends, see Fearon and Laitin (2003). Since the mid-1990s, the United Nations and World Bank, among other organizations, had focused attention on articulating their policy doctrines for preventing and containing civil wars; a landmark was United Nations Secretary-General Boutros Boutros-Ghali's 1995 *Agenda for Peace*. This emphasis was matched by increased attention to the articulation of peacekeeping doctrine among the major powers, including the US.

[3] See Hegre and Sambanis (2006) for a discussion of the lack of robustness of findings in many of the cross-national civil war research.

[4] With respect to ethnicity see Fearon and Laitin (2003). With respect to natural resources see Fearon (2005), Humphreys (2005), and Hegre and Sambanis (2006).

A brief summary of the conflict

Burundi was engulfed in civil war from 1993 until 2004 that is said to have caused between 200-300,000 casualties and over a half million displaced citizens.

Since independence in 1962, both the Hutu and the Tutsi have been subject to sporadic inter-ethnic violence, with particularly severe massacres taking place in 1972 and 1988. Despite the history of conflict, however, in 1992 Pierre Buyoya's government adopted a new constitution in providing for a multiparty system. Hutu Melchior Ndadaye won the election with 65% of the vote. He lasted in office for only three months until he was assassinated, touching off over a decade of war. The conflict simmered at a low level until the mid-1990s, when internal and external factors conspired to escalate the violence. In 1996 many Burundian units crossed the border into the DRC to fight alongside or against Kabila. At the same time, Pierre Buyoya led a successful coup to retake power for his Tutsi minority following and suppress all opposition.
Meaningful and transparent peace talks began in 1999 in Arusha, Tanzania. By 2000 the first peace accord had been signed by the government and the CNDD, but not by the FNL-Palipehutu or the CNDD-FDD. Through ongoing negotiations other rebel groups were brought into the fold, until all groups but the FNL-Rwasa had agreed to the terms in the end of 2003. Democratic elections took place without significant incident in 2005, and in August 2006, the FNL-Rwasa agreed to lay down arms.

Major Rebel Groups. The CNDD and its armed wing FDD was formed in 1994 by Leonard Nyangoma. Its primary support base were Hutus that felt that FRODEBU, Ndadaye's party, had catered too heavily to the Tutsi elite and their urban constituency. In 1998, the CNDD split into the CNDD-FDD under Jean-Bosco Ndayikengurukiye and the original CNDD-Nyangoma. Ndayikengurukiye was able to recruit the bulk of the combatants to fight under him. However, in 2001, the movement endured another split. This time, Pierre Nkurunziza led a break away faction that became the main opposition to the Burundian army. Nkurunziza himself was elected president in the 2005 elections. Palipehutu and its armed wing FNL had existed since the early 80s. FROLINA and FNL-Palipehutu, two splinter groups, broke away in the early 90s prior to the beginning of the conflict. In 2001, FNL-Palipehutu split again into two groups, FNL-Kabura and FNL-Rwasa.

Selecting our respondents

Enumeration Locations	
Province	**Commune(s)**
Bujumbura Mairie	Cibitoke
Bujumbura Rural	Mukike
Bubanza	Gihanga (2), Bubanza
Bururi	Mugamba
Cibitoke	Bukinanyana, Mabayi, Rugombo
Gitega	Nyanrusange
Kayanza	Muruta, Gatara
Makamba	Nyanza Lac
Muramvya	Muramvya
Rutana	Rutana, Mpinga-Kayove
Ruyigi	Butezi

During the enumeration process we were operating under several logistical constraints. We were only able to send our enumeration team to one commune DDR office each day because of the difficult driving conditions combined with the curfew imposed on travel in and out of the capital city, Bujumbura. Seventeen days were allocated to enumeration.

In selecting ex-combatants, we wanted to be sure that each ex-combatant in the country had an equal chance of being chosen to participate in the survey. If we

were to simply pick seventeen communes randomly, ex-combatants in communes more densely populated with other ex-combatants would be less likely to be chosen to participate. To overcome this problem, we used information on commune-level distribution of ex-combatants provided to us by the World Bank to weight each commune by the number of ex-combatants living there. Ex-combatants living in communes with many other ex-combatants, then, were also living in communes that were more likely to be selected into our sample.

The communes in our sample were clustered on the western side of Burundi on the Congolese border, where most of the fighting took place. Six full enumeration days were spent in the two provinces most recently and heavily affected by the war: Bubanza and Cibitoke. Bujumbura Rural, which was still experiencing attacks by the PALIPEHUTU-FNL at the time of enumeration, is also represented in the sample.

Civilians were sampled from the same communities as the ex-combatants. Clearly, this technique does not provide a truly random sample of civilians; however, it would have been prohibitively expensive to survey civilians separately and throughout the country. Future iterations of the survey will seek to acquire a civilian sample that is geographically and demographically representative of the country. Enumerators were instructed to interview at minimum of eighteen people per enumeration day. We sought to break our sample down into three proportional categories: ex-combatants enrolled in DDR programming, ex-combatants that have been integrated into the current military or police, and civilians. We came extremely close, though the sample was slightly short on DDR participants.

	Frequency	Percent
Civilian	131	36%
DDR	125	25%
Military/Police	90	35%
Other Ex-com[5]	13	4%

Distribution of respondents by faction and ethnicity

	Sample Frequency	*Sample Percent*	*Population Percent**
FAB	126	55%	56%
CNDD, CNDD-FDD, CNDD-Nyangoma	84	37%	36%
FNL	6	3%	4%
FROLINA	2	1%	1%
Other	10	4%	2%
Total ex-combatants	228	65%	1%
Total civilians	131	35%	99%
Total respondents	359	100%	100%

*Source: World Bank MDRP proposal, technical annex.

The bulk of the fighters—over half—were fighting for the Forces Nationale du Burundi, or FAB, according to both the MDRP figures and our sample. All rebel groups together composed the remaining 44.7% of the ex-combatants, broken down into four groups. The first and most populous group was the CNDD, which went through a number of splits and leadership changes over the course of the conflict. In the table above, the original CNDD, the breakaway CNDD-FDD (created by Jean Bosco Ndayikengurukiye and later led by President Pierre Nkurunziza) and the remaining CNDD-Nyangoma are grouped together for simplicity. Together these CNDD elements constitute nearly 37%

[5] The category "Other Ex-combatants" is composed of ex-combatants that report being part of neither the military, police, nor the DDR program.

of the sample. The remaining rebel groups represent a comparatively small proportion of the total fighters.

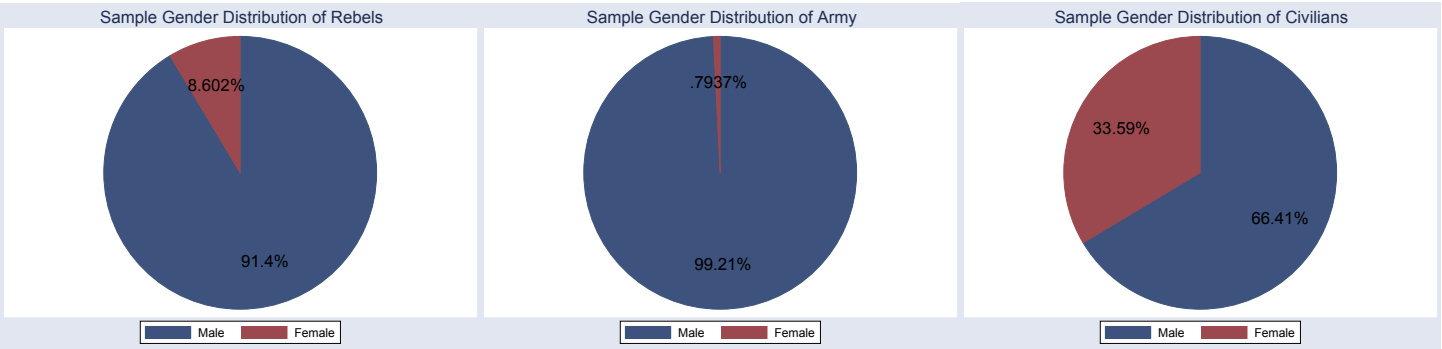
We also surveyed 131 civilians to serve as a control group for our analysis. While the civilians represent 36.5% of our sample, they are in fact a full 98% of the population—being a combatant in the war was rare. Out of a total pre-war population of approximately six million, only approximately 80,000 fought.

	Hutu		*Tutsi*		
	Frequency	*Percent*	*Frequency*	*Percent*	*Total*
FAB	30	24%	96	76%	100%
CNDD, CNDD-FDD, CNDD-Nyangoma	80	95%	4	5%	100%
FNL	6	100%	0	0%	100%
FROLINA	2	100%	0	0%	100%
Other	9	90%	1	10%	100%
Total ex-combatants	127	55%	101	45%	100%
Total civilians	84	64%	47	36%	100%
Total respondents	211	58%	148	42%	100%

The war is popularly characterized as an ethnic struggle between the Tutsi FAB and the Hutu rebels. As our data show, this is a gross oversimplification: nearly a quarter of the military soldiers that we surveyed were Hutu. What was true in our sample is that the rebel groups appear to be largely free of Tutsi. It is worth remembering, though, that 85% of the Burundian population is Hutu, so even a small number of Tutsi fighting with the rebels could be a meaningful sign of ethnic mixing across fighting groups.

Basic Demographics

Gender



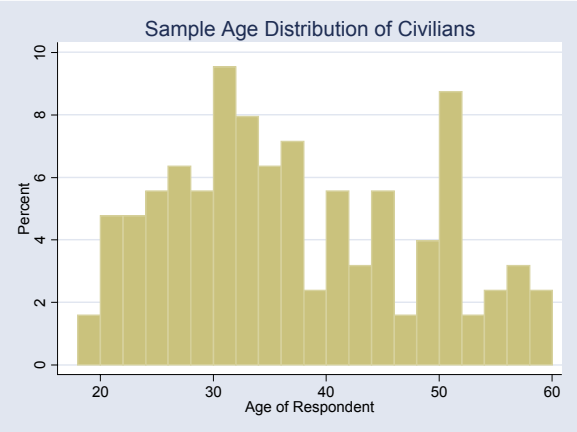
According to Amnesty International, there are as yet no reliable estimates of the number of female combatants in the war.[6] Our sample suggests that female participation in the rebel groups was unusual but not unheard of, while female combatants in the army were exceedingly rare. It is possible that women are underrepresented in our sample, due to a reluctance to participate in the survey or tendency

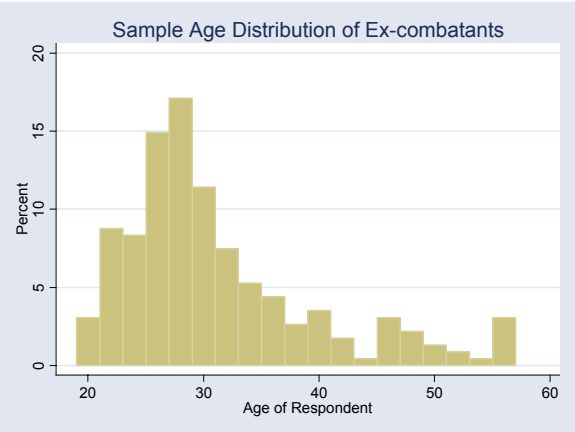
[6] http://web.amnesty.org/library/index/engafr160112004.

to simply return home (and not enroll in DDR or join the police or armed forces) after the conflict ended.

Women are also underrepresented in the civilian sample, proving the need for a within-household randomization strategy when interviewing civilians. Future surveys should devise a method to randomly select the household member to interview, such as assigning a number to each member of the household found at home and rolling a die, or interviewing the household member with the most recent birthday. In our sample, it is possible that enumerators were most frequently speaking to the household head, who is typically responsible for managing family business. It is also possible that men were more likely to be involved in commerce in town while the women were on the farm, making men far more accessible for enumeration.

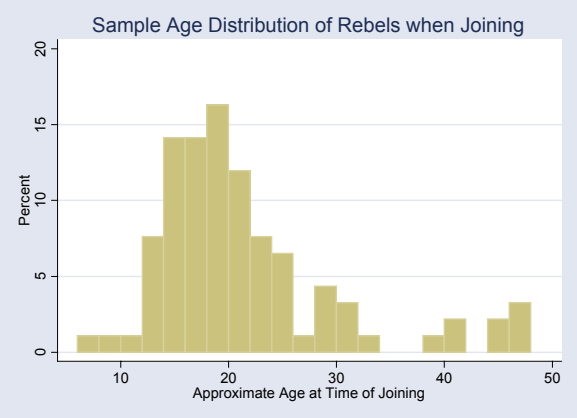
Age. At the time of interview (the summer of 2006), the bulk of the ex-combatants were in their twenties or early thirties. Fighters for the army were, on average, only slightly older than the rebels—31.6 years versus 29.5. The youngest ex-combatants surveyed were in their late teens, while the oldest were approaching sixty. Our civilian sample is considerably older—the average age is 37.2 years.[7]

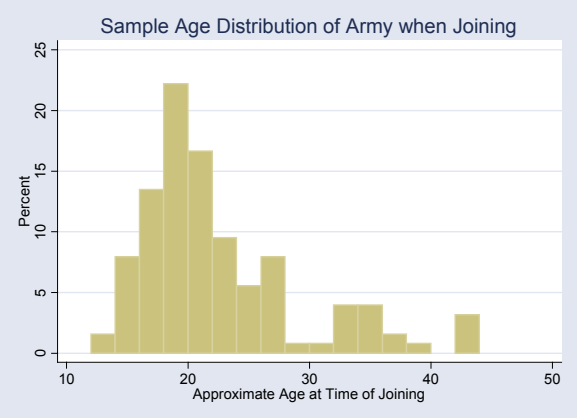




While the number of child soldiers (under 18) is still uncertain, Ligue Iteka estimates that approximately 9000 children served.[8] Our sample contains approximately 95 ex-combatants that joined prior to turning 18, representing a full 42% of our sample. Minors in the sample are split neatly between the army and the military (47 in a rebel group, 44 in the army), though the youngest combatants were rebel soldiers, including two fighters that claim to have joined at nine years old, and one that claims to have joined at six.

[7] There were an additional four civilians over the age of sixty that are not shown on the histogram for reasons of space.
[8] As reported by IRIN news, http://www.irinnews.org/webspecials/childsoldiers/Burundi081203.ASP.





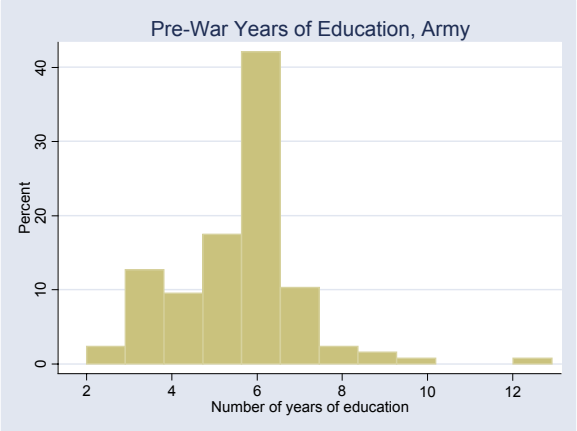
The average age at joining for the rebels and the military are extremely close in our sample—21.1 years for the rebels, 22.1 years for the members of the military. The age of the military combatants are, however, more tightly clustered around the mean.

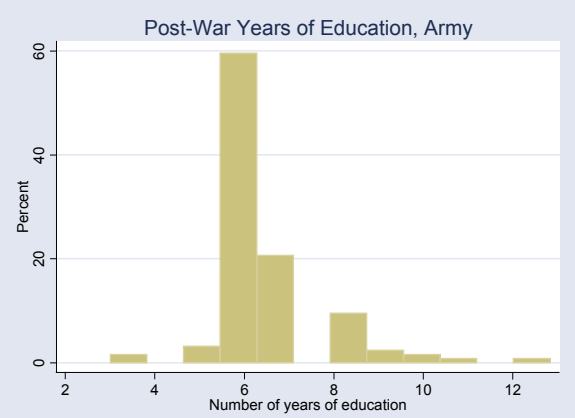
Because our sample omits those holding the highest ranks of the military and rebel groups, it is possible that our distribution is skewed downward. It is likely that those in a position of authority—especially in the military, where many respondents said promotion was based largely on seniority—were older. On the other hand, those ex-combatants that were still under 18 after the war ended might have simply returned to their families, in which case we would not have access to them as a population to survey. This selection problem would skew our sample upward. In short, if we have a selection problem in the age of our respondents, it is likely that we are missing ex-combatants on the extreme ends of the distribution.

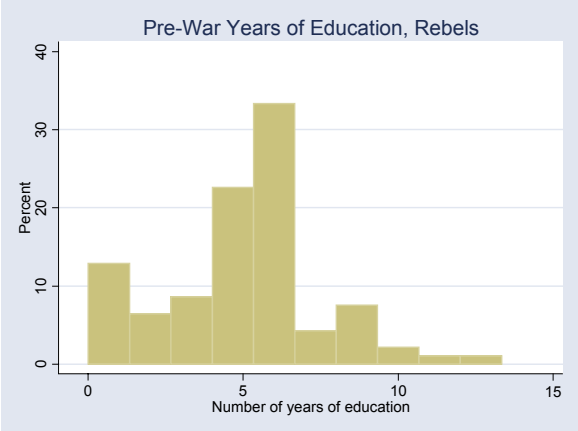
Education. Before the war, army fighters had, on average, the highest level of education at 5.4 years. The rebels came second, with an average of 4.8 years. The principle difference between the army and rebel levels of education is the presence of those with no education at all in the rebel sample. The civilians in our sample have a dramatically different educational profile than both the rebels and the military. Many of them had no education at all—probably because a higher percentage of our civilian sample is female, and women are less likely to be educated.

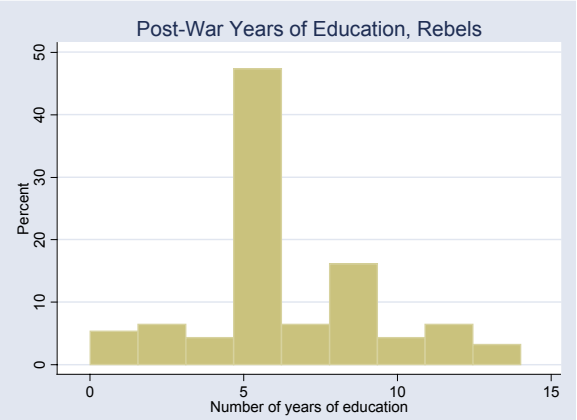
Across all three groups, there is a cluster of individuals with approximately six years of education. Primary school in Burundi is free and nominally compulsory for the first six years, though as of 2005 59% of boys and 48% of girls attend.[9] Gaining entrance to secondary school (which is divided into lower and upper tiers) requires passing an entrance examination. There are other barriers to further schooling: secondary school might be distant from the family's home, making attendance logistically impossible, or families may be reluctant to allow children to continue with school when they are old enough to be of use on the farm or with the family business.

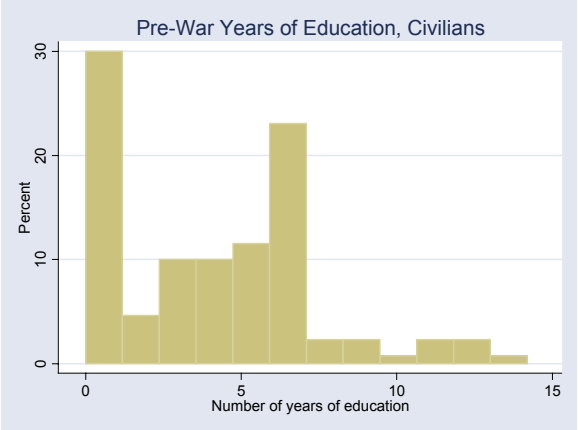
[9] Source: UNICEF State of the World's Children 2005.

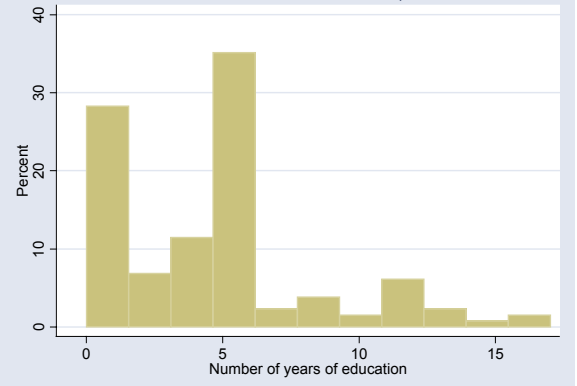

Pre-War Years of Education, Army
Percent
0
10
20
30
40
2
4
6
8
10
12
Number of years of education

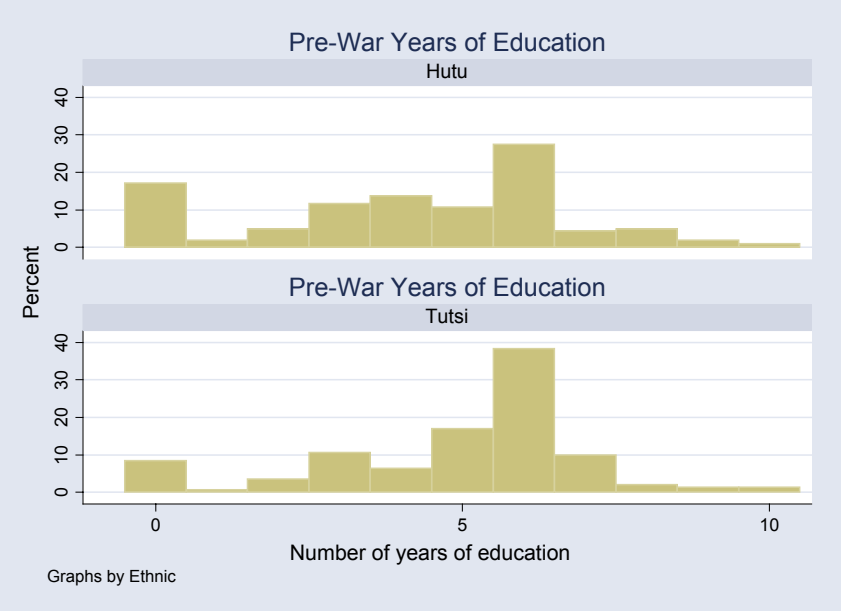

Post-War Years of Education, Army
Percent
0
20
40
60
2
4
6
8
10
12
Number of years of education


Pre-War Years of Education, Rebels
Percent
0
10
20
30
40
0
5
10
15
Number of years of education


Post-War Years of Education, Rebels
Percent
0
10
20
30
40
50
0
5
10
15
Number of years of education


Pre-War Years of Education, Civilians
Percent
0
10
20
30
0
5
10
15
Number of years of education

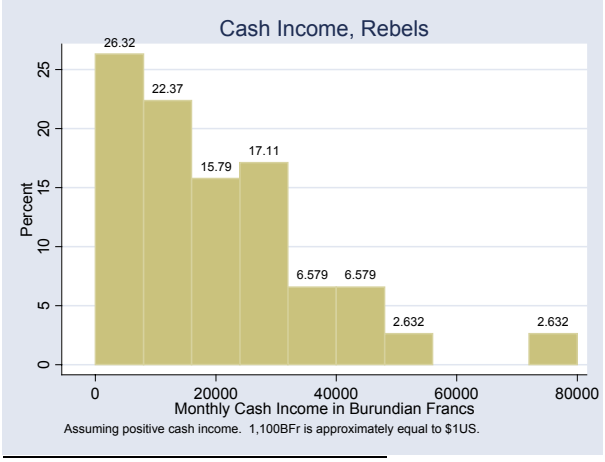

Post-War Years of Education, Civilians
Percent
0
10
20
30
40
0
5
10
15
Number of years of education

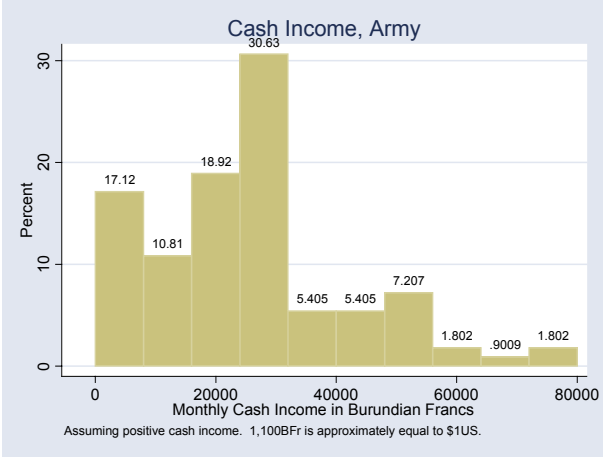


Breaking the sample down by ethnic group reveals interesting differences in educational patterns. Overall, Tutsi respondents had a slightly higher mean level of education, at 4.7 years versus the Hutu mean of 4.4. Substantially more Hutus in the sample had never attended school at all, and far more Tutsis appear to have completed their primary education (by completing a full six years of education). Once completing primary school, however, the same proportion of Hutus and Tutsis—35%—went on to secondary school. The reason why fewer Hutus complete primary school even though upon completion, an equal percentage entered secondary school, merits further investigation.

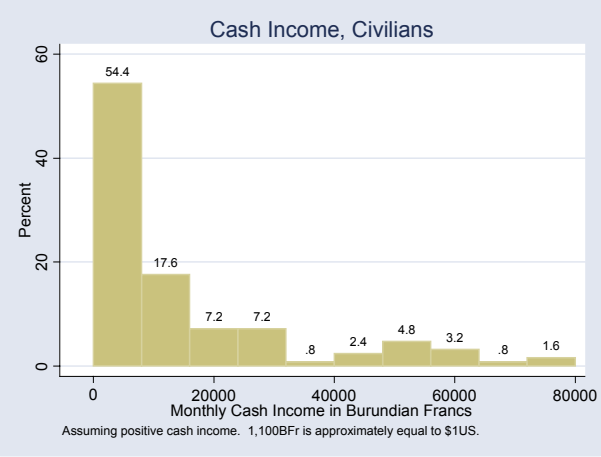
Wealth. Because Tutsis have historically been the politically dominant group in Burundi since independence, it would not be a stretch to imagine Tutsis as economically dominant, as well. Interestingly, our data do not support this conclusion. 16.9% of Hutus and 15.3% of Tutsis in the sample earn some positive cash income. Once outliers are excluded,[10] the mean income for Hutus and Tutsis in the sample is quite close, at 16,318BFr for Hutus and 17,624BFr for Tutsis. Of course, quality of life depends not just on the raw level of income, but on how many people the income must stretch to support. Again, however, there is little difference in the sample across the ethnic group: both Hutus and Tutsis support and average of five people with their cash income.[11]

There is, however, a major difference in the cash income levels between the rebels, the army and the civilians in our sample. For both the rebels and the army, roughly 11% reported earning no cash income at all at the time of the survey. The percent of civilians without cash income was much higher—25%—however, this is an artifact of the high proportion of women in the civilian sample. Only approximately 13% of male civilians reported no cash income.





[10] An outlier is defined as having a monthly cash income over 50,000BFr. This excludes approximately 7% of the sample.
[11] This is true in the sample overall and for the subsample that reports earning a positive cash income.



Of those earning cash income, those in the army fare the best, making an average of 22,500BFr.[12] Rebels come next, with an average cash income of 17,800BFr. Civilians are definitively last, with an average cash income of only 10,700BFr—though it climbs to 14,600BFr if one considers only the males.

Membership in the FAB, or the Burundian army, is a legitimate occupation that is associated with high levels of both prestige and income in Burundi. It is no wonder, then, that the highest cash salaries are found in the army. It is interesting, however, that the rebels have consistently higher salaries than the civilians post-war. Whether or not this can be attributed to the effects of DDR programming will be explored in the final section..

Of course, in an agricultural society cash income is only one component of total wealth. Ownership of productive land, labor, and cattle also contribute to one's overall standard of living. Land and home ownership was nearly universal, and thus reasonably equal between Hutus and Tutsis. Cattle ownership, a mark of status in Burundi, was far less prevalent; only 47% of the total sample reported owning cattle. Historically, the Tutsi pastoralists tended to own more cattle than their Hutu agriculturist counterparts, and our sample suggests this pattern persisted through at least 1993—a Tutsi was nearly twice as likely to own cattle as a Hutu in our survey.

	Total Sample	*Hutu*	*Tutsi*
Land	95%	93%	97%
Home	94%	93%	96%
Cattle	47%	34%	64%
Sheets	65%	57%	76%

Our measures of wealth were the product of extensive discussion in focus groups prior to the completion of the survey instrument, and though cattle ownership came as no surprise, the benchmark for Burundian middle class status did: ownership of bedsheets. As the focus groups suggested, the data do reveal that while not all Burundian families sleep on sheets, a higher percentage of them do than own cattle. Thus, it does in fact seem that sheets could be a proxy for middle class status. Again, a Tutsi in our sample is more likely to be middle class, though the difference is not as dramatic as it was for cattle ownership.

Occupation.

	Total	*Hutu*	*Tutsi*	*Rebel*	*Army*	*Civilian*
Student	48%	48%	49%	61%	63%	25%
Agriculture	26%	32%	18%	19%	3%	53%
Military/Police	11%	2%	24%	2%	26%	3%
Other	7%	9%	4%	7%	3%	11%
Professional	3%	5%	--	7%	2%	2%
No Job	2%	2%	2%	3%	2%	2%
Artisan	2%	2%	2%	1%	1%	2%
Blue Collar	1%	--	1%	--	--	2%
Total	100%	100%	100%	100%	100%	100%

[12] Again, outliers are removed, using the same parameters as specified in footnote 5.

The idea of a student revolution is certainly not new, but it is still surprising to note that nearly 50% of our sample in both ethnic groups was composed of students. The second most populous category was composed of those working in agriculture (more of whom were Hutu than Tutsi), with military and the police trailing a distant third (more of whom were Tutsi than Hutu).

Both the rebel groups and the army were made up of over 60% students. The next largest occupation represented in the rebel groups was agriculture; it was more common for Hutus to work in agriculture so this was to be expected. Likewise, 26% of those that fought for the army during the war were already in the military before the war began in 1993.

More than half of our civilian respondents were involved in agriculture. While it is tempting to conclude that the high percentage is due to the fact more of our civilian sample is Hutu, the percentage of civilian agriculturists is approximately the same across ethnic groups. The higher percentage of women in our civilian sample might also be though to contribute to the high agricultural percentage, but in fact female civilians are only slightly more likely than males to work in agriculture (61% versus 49%). In fact the culprit is age—older respondents, more prevalent in the civilian group, are also more likely to farm. The over 30 civilian group is 63% agricultural, while the 30 and under group is only 36%.

With this background information in hand, we now turn to on-the-ground assessments of peacekeeping in Burundi and evaluation of ex-combatant reintegration efforts.

Peacekeeping

Assessment of Peacekeeping

In general, studies of civil wars suggest that settlements of civil and ethnic wars often break down for two main reasons: (i) combatants' security concerns from the beliefs or perceptions that opponents will not fulfill their side of the ceasefire and peace agreements; or (ii) the presence of spoilers who may perceive the prospect of durable peace as a threat to their position, power or other interests and continue to fight in order to prevent this from happening.[13] In either case, combatants are less likely to engage in disarmament and demobilization process and other such activities necessary for a successful peace process. However, researchers also suggest that peacekeepers can help belligerents to prolong ceasefires and peace in the aftermath of civil wars. They argue that the most important role of peacekeepers in civil wars is to help belligerents overcome security fears associated with disarmament and demobilization processes and credibly deter spoilers from endangering the peace process.[14] While these claims appear logical (and do find support in some quantitative studies), they provide few insights on whether and how peacekeepers influence individual decisions to join the peace process. As a result, the usefulness of these studies to policy makers has been limited.

The aim of this section is to elaborate a framework for evaluating the effectiveness of UN peacekeeping on the ground, apply it to the Burundi case and draw lessons for how peacekeeping works more generally. This, we hope, will inform the design of future missions as well as deployment and drawdown decisions. The framework we propose seeks to measure the impact of UN peacekeepers on three main outcomes: (i) the behavior of combatants (in terms of engagement in hostilities in violation of ceasefires) prior to entering disarmament areas; (ii) timing of combatants' entrance in the peace process (by formally handing their weapons); and (iii) combatants' trust or expectations that opponents will abide by the agreements. These three outcomes capture operationally the extent of combatants' commitment to the peace process—or the micro-foundations for a durable peace. The first two are perhaps better measures of combatants' commitment to the peace process, but difficult to apply at the individual level given that decisions to join the peace process tend to be taken at the level of the entire faction. That is, rarely do combatants decide to disarm individually unless they are abandoning the faction altogether. While we might not be able to explain variation at the individual level, the large-N survey may allow us to take an accurate measure of the mean attitude of the combatants. The later outcome seeks to get at combatants' sense of security resulting from their perceptions about the behavior and attitudes of their opponents. Such perceptions can inform us about the course of actions combatants are likely to take in response to their opponents' behavior as well as the likelihood of their joining the peace process.[15] For example, if combatants are convinced that their opponents will renege on ceasefire agreements, they may refuse to disarm in anticipation of vulnerability to security threats posed by their renegade opponents.

The framework we propose looks at how UN peacekeepers influence the behavior and attitudes of combatants throughout the peace process. We specifically look at the relationship between variation

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[13] The first reason is suggested by Walter (2002) and the second by Stedman (1997). In his article, Stedman defines spoilers as leaders and fighters who believe that peace emerging from negotiations threatens their power and interests, and use violence to undermine attempts at achieving it. There are many types of spoilers: (i) limited spoilers typically advance concrete goals, which can be met with appropriate inducement measures; (ii) total spoilers usually advance demands that are vague in nature and difficult (if not impossible) to satisfy; (iii) and greedy spoilers tend to advance material demands, but they are more sensitive about the costs-benefits calculations. For more information about these different types of spoilers and the appropriate strategies to meet their demands, see Stedman (1997).

[14] Hartzell et al (2001); Fortna (2004); and Gilligan and Sergenti (2006).

[15] By "joining the peace process" we mean combatants' compliance with ceasefire and peace agreements (in terms of engagement in hostilities after a ceasefire or satisfaction with peace settlements).

in peacekeeping structures (in terms of force sizes and deployment rates to the host country, extent of geographical coverage, and troop visibility on the ground) and patterns in the disarmament and demobilization process (such as counts of demobilized combatants handing in weapons, by time period in the peace process). Our analysis focuses at three levels. At the macro-level, we seek to determine whether the rates (degree of speed) of deployment of UN peacekeepers to the host country correspond with rates of participation of ex-combatants into the peace process. The idea here is that massive deployments of peacekeepers can signal the commitment of the international community to end the conflict and result in some sort of *peacekeeping credibility*. This, in turn can induce massive participation into the peace process. While this approach might give us an overall picture of the disarmament and demobilization process, it is less likely to inform us about the specific ways in which UN peacekeepers influence (if at all) decisions to join the peace process.

At the meso (or intermediate) and micro-levels, we are interested in tracing the patterns of deployments of UN peacekeepers overtime and across locations inside the host country to determine whether they correspond with patterns of combatants' participation in the peace process. In other words, the issue here is to determine whether there are systematic differences in the rates of participation in the peace process between combatants from areas in which UN peacekeepers are deployed and those from other areas. At the micro-level, however, we seek to be even more specific. We use direct questions (through surveys) to determine whether combatants had exposure to UN peacekeepers and whether this exposure influenced their behavior and attitudes with respect to the peace process. The argument at these two levels is that the extent to which peacekeepers change the decision calculus of combatants will be a function of their strength (in number and equipment) and scope of their deployment (or geographical coverage). A robust and highly visible peacekeeping force can alleviate or help eliminate altogether the barriers to civil war settlements. For example, a large peacekeeping force can manage to deploy across many locations to monitor ceasefire and peace agreements, thereby prevent misunderstandings or accidents from igniting the conflict anew. A robust peacekeeping force can also provide security to combatants; enhance their trust for each other and increase their confidence in the security aspects of the peace process—and ultimately, induce their disarmament and participation in the peace process.

Combined, these three levels can inform us about whether and how UN peacekeepers alter *individual combatants'* incentives in such that they are willing to lay down arms and embark on the peace process. We use survey techniques to investigate these claims. In our survey, we design a series of questions that allow us to determine ex-combatants' timing of entrance into the peace process; their locations during the war; their exposure to UN peacekeepers and perceptions about several aspects of UN peacekeepers' work; and their attitudes towards the peace process in general. We evaluate the information collected against patterns of peacekeeping deployments over time and across space inside Burundi. If UN peacekeepers have any impact on combatants' decisions to join the peace process, we anticipate that combatants who operated in regions in which peacekeepers were deployed would feel more secure and thus likely to join the peace process earlier than those who were in other areas.

The present section highlights two very preliminary findings. First, our findings suggest that UN peacekeepers were not deployed in every area where hostilities were still taking place—only about half of ex-combatants in our sample had exposure to UN peacekeepers prior to entering cantonment zones. [16] However, we do not find significant differences in the behavior (such as violations of

[16] This can partly be explained by the fact that ONUB arrived pretty late in the Burundian peace process—only less than a year before the end of the transition; belligerents had already made considerable progress on their own or to some extent with the assistance of the African Union Mission in Burundi. Yet it is at this critical junction at which the new 'winners' and 'losers' were emerging that the whole process appeared to be delicate and at risk of collapsing at any moment. This is especially so given that initially, although the different armed groups were placed in different assembly points and cantonment zones, they continued to carry their weapons until disarmed by UN peacekeepers. Moreover, it is after disarmament that that insecurity for ex-combatants from rebel groups heightened; government forces were not technically

ceasefire agreements) or attitudes (such as trusting that opponents will abide by the agreements) between ex-combatants had exposure to UN peacekeepers and ex-combatants who did not have exposure to UN peacekeepers.[17] Second, our preliminary results suggest that the work of UN peacekeepers in the final stages of the disarmament and demobilization process, especially inside assembly areas and cantonment zones, had an overall positive impact on the security of ex-combatants.[18] We report and discuss the broad range of these preliminary results from our pilot survey in subsequent sections. But first, we give a historical overview of peacekeeping efforts in Burundi, which started with South Africa's engagement to protect returning political leaders, and complemented later by the African Union Mission in Burundi. We then present the overall picture of ONUB's role in the disarmament and demobilization process.[19]

Early Peacekeeping Efforts in Burundi

Early peacekeeping efforts in Burundi started with the engagement of the government of South Africa to deploy the South African Protection Support Detachment (SAPSD) as far back as November 2001, with the mandate to ensure physical security of leaders who were returning from exile to join the Transitional Government of Burundi (TGoB). The two main political parties (the Tutsi-dominated UPRONA and the Hutu-dominated FRODEBU) as well as several minor political parties and armed factions had signed ceasefire and peace agreements. Major hostilities, however, were still raging between the major factions (in particular, Nkurunziza's CNDD-FDD and Rwasa's FNL) and the FAB.

Earlier negotiations had made provisions that verification and control of the ceasefire agreement would be conducted by an African Union (AU) force. In April of 2003, while negotiations between the CNDD-FDD and the TGoB were still underway, the African Union agreed to deploy a contingent of up to 3335 combat forces and 120 military observers, the African Mission in Burundi (AMIB).[20] However, the mission was relatively small (2,578 troops and military observers) and its geographical coverage very limited in scope. Moreover, the mission faced very serious logistical and financial problems. Both these factors seriously impacted AMIB's ability to induce combatants' confidence in the disarmament and peace process. As a result, the disarmament and demobilization process slowed to a crawl. In fact, almost a year after the mission's deployment, only 196 ex-combatants (out of an estimated 25,000+ candidates) had entered the cantonment zones.[21] The continued financial and logistical difficulties experienced by AMIB prompted the African Union to

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being disarmed by ONUB. Thus, UN peacekeepers had to ensure security to the rebels for a smooth continuation of the process. As the current Defense Minister who was also the chief of staff in the former Transitional Government of Burundi (TGoB) noted, UN peacekeepers helped to "cool down the spirits" in this undoubtedly tense security environment.

[17] By *exposure to UN peacekeepers* we mean physical presence in areas in which peacekeepers are stationed or operating. Although by the time ONUB forces were fully deployed, almost every single ex-combatant (98 percent of the 199 respondents) was aware of the presence of ONUB in Burundi though there is considerable variation in the extent of peacekeeping visibility on the ground.

[18] The peace agreements in Burundi stipulated that ex-combatants would be the first to enter cantonment zones, while members of the army would return in their barracks, to go through the triage process between those who would integrate the new army and those who would be demobilized. One of the tasks of peacekeepers was secure convoys of combatants to assembly areas as well as to provide security in cantonment zones.

[19] ONUB's mandate included other activities such as electoral assistance, human rights monitoring, and provision of security escorts to humanitarian convoys or returning refugees and internally displaced persons. Our survey however focuses only on the disarmament and demobilization process, which concerned only combatants.

[20] The government of Burundi and the CNDD-FDD of Nkurunziza eventually reached two protocols and comprehensive ceasefire agreements in Pretoria in October and November of 2003, roughly six months after the arrival of the African Union peacekeeping mission in the country.

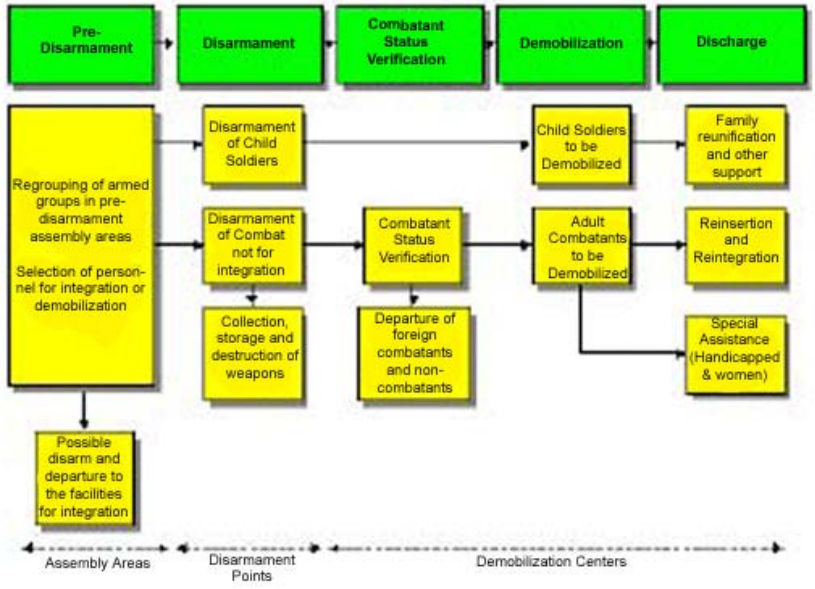
[21] These combatants were coming from marginal rebel factions (42 from FNL Mugabarabona and 151 from FDD Ndayikengurukiye). The major rebel movements such as CNDD-FDD Nkurunziza and FNL Rwasa were still outside of the peace process. See ONUB Press Kit, Public Information Office, United Nations Office in Burundi (February 2004).

seek assistance from the United Nations. On May 21, 2004, the Security Council, by its resolution 1545, established under Chapter VII the United Nations Operation in Burundi (ONUB)[22] to support and help Burundians with the implementation of the Arusha Agreements.

Activities and Deployments of the United Nations Operation in Burundi

The United Nations Operation in Burundi subsumed AMIB and was tasked among other things to: (i) ensure the respect of ceasefire agreements through monitoring their implementation and investigating their violations; (ii) carryout out the disarmament and demobilization portions of combatants and monitor the quartering of the Armed Forces of Burundi and their heavy weapons; (iii) monitor and provide security at the pre-disarmament assembly sites, collect and secure weapons and military materiel to dispose of it as appropriate, and contribute to the dismantling of militias; (iv) contribute to the successful completion of the electoral process stipulated in the Arusha Agreement; and (v) create the necessary security conditions for the provision of humanitarian assistance and facilitate the voluntary return of refugees and internally displaced persons.[23] Our survey work focused mainly on the activities of ONUB as pertaining to disarmament and demobilization process. This process was guided by the Joint Operations Plan (JOP), a memorandum of understanding between the parties, ONUB, and various implementing partners of the Arusha Agreements.[24] It provided specific procedures and mechanisms for the disarmament, demobilization and military integration of the members of the Burundian Army as well as Armed Political Parties and Movements (APPMs). The following diagram depicts the functional blocks and activities in the disarmament and demobilization process in Burundi[25]and table 1 indicates the responsibilities of ONUB in each phase of the process.

Figure 1: Overview of Activities



Source: Joint Operation Plan, 2004

[22] ONUB is the operation's French acronym (Operation de Nations Unies pour le Burundi).
[23] Adapted from the mandate. Full description of the mandate can be found on the United Nations Department of Peacekeeping Operations' website at http://www.un.org/Depts/dpko/missions/onub/mandate.html
[24] AMIB was a party to this memorandum before the advent of ONUB. Implementing partners included the Joint Ceasefire Commission (JCC), the Multi-Country Demobilization and Reintegration Programme (MDRP), and the National Commission for Demobilization and Reintragration or *Commission Nationale pour la Démobilisation, Réinsertion et Réintegration* (NCDRR) in French.
[25] Specific activities in each functional block as well as the responsible implementing partner can be found in the JOP.

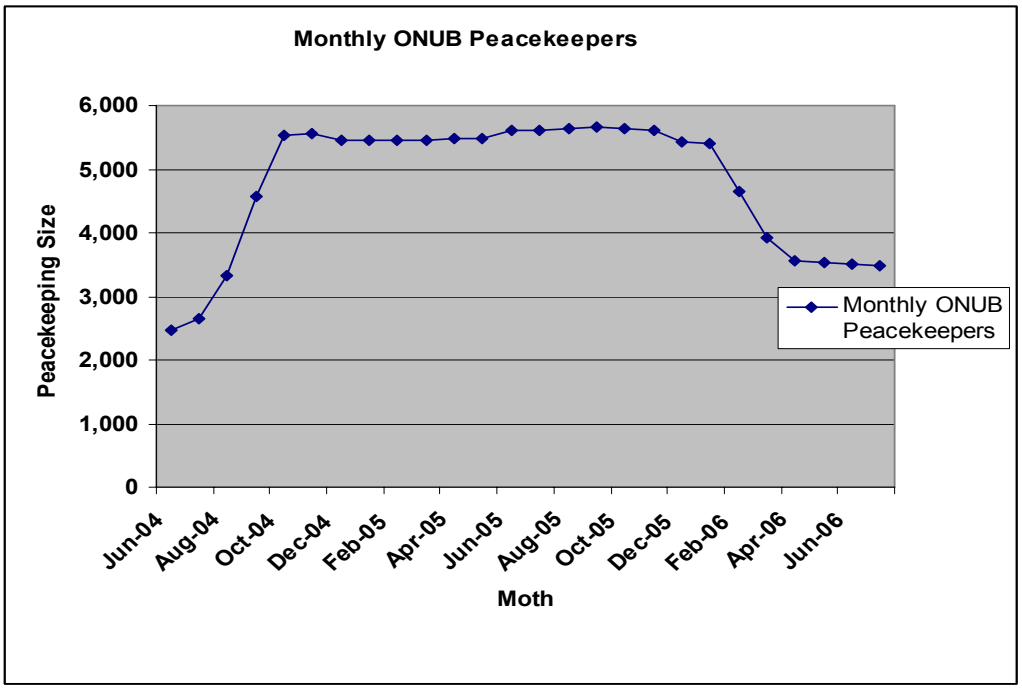
Table 1: ONUB's Responsibility in each Phase

Phase	Venue	ONUB's Role*
Pre-disarmament	**Assembling areas**	• Monitoring arrival of armed groups in pre-disarmament assembly/cantonment areas • Establishing contact with commanders in pre-disarmament areas • Provision of food and non-food relief items to armed groups in pre-disarmament assembly/cantonment areas • Sensitization of field commanders about selection for integration, disarmament, demobilization and reinsertion/reintegration processes • Monitoring adherence to ceasefire in vicinity of assembly areas
Disarmament**	**Disarmament points**	• Establishment of communication with fighting forces and notification of commanders • Identification and establishment of mobile disbarment teams and disarmament points • Identification and Establishment of weapons storage centers (WSCs) • Control of inflow arrival/delivery schedules of combatant candidates at disarmament points • Registration of combatants candidates and weapons/munitions • Disabling weapons • Collection of disabled weapons and ammunitions to designated WSC • Destruction of unstable ammunition • Supervision and evaluation
Demobilization (verification status and discharge)***	**Demobilization Centers**	• Provide escorts of disarmed combatants in/combatants candidates in Demobilization Centers (DCs) • Test of military skills (for the purpose of combatant verification status.

Source: Constructed from the Joint Operations Plan for Pre-disarmament, Combatant Verification, and Demobilization (10/2004).
* Some of these responsibilities are undertaken with other implementing partners.
** Disarmament of the members of the regular army who volunteer for demobilization was to be carried out by the TGoB in the barracks. Once disarmed in their barracks, the former soldiers were to be registered and moved to the DCs to undergo the same procedures (i.e. combatant verification status and registration) as the ex-combatants.
** *ONUB played a very minimum role in this phase. Other implementing partners took the lead.

As the table above suggests, ONUB was given complex tasks that would require enormous human, logistical and financial resources to be carried out successfully. Given that ONUB incorporated AMIB, the first thing that ONUB did was to re-hat the AMIB peacekeepers as UN peacekeepers under ONUB's command. The military strength of this first contingent stood at about 2,472. In a matter of months, this force doubled its size to 5,525—a near all-time maximum strength that stabilized during the entire deployment. The graph below presents the monthly average number of ONUB peacekeepers from June 2004 to July 2006.[26]

Figure 2: Monthly Averages of ONUB Peacekeepers



As this graph indicates, the number of ONUB peacekeepers grew rapidly between June of 2004 and around November 2004 and the overall strength of the mission doubled from about 2,500 to about 5,500. Yet this growing strength was not only numerical, it was also geographical: the increase in size of the mission translated into a broader deployment of peacekeepers. Figures 3-6 (in the appendix) contrast the deployment (geographically) of ONUB peacekeepers in its early stages (August 2004), at the height of the operation (November 2004 to May 2005) and towards the end of the operation (January 2006). The differences among these maps are striking. The August 2004 deployment map shows only modest concentrations of peacekeepers (no more than six deployments) in Bujumbura and few posts in Bubanza, Muyinga, Gitega and Makamba. In contrast, the 2004 and May 2005 maps show dramatic growth. UN peacekeepers were deployed in more than three dozen locations and sites.

These patterns of deployment over time and across space constitute the benchmarks against which to gauge the operation's relative effectiveness in influencing combatants' behavior and attitudes towards the peace process. In doing so, however, we face serious selection problems since deployments inside the country are not random. As yet we have not found satisfactory solutions to these problems.

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[26] Figures drawn from Global Policy Forum accessed at http://www.globalpolicy.org/security/peacekpg/data/pkoms04.htm

Description of the Outcomes

We use the framework outlined at the beginning of this section to examine the patterns of behaviors and attitudes exhibited by ex-combatants prior to and during the disarmament and demobilization process. We are interested in three outcome measures.

1. *Combatants' behavior prior to entering cantonment zones*

The first is the behavior (in terms of engagement in hostilities after ceasefire agreements) of ex-combatants prior to entering cantonment zones. The graph (figure 7) bellow presents the distribution of ex-combatants who engaged in hostilities (both attacked and being attacked) after ceasefire agreements. Figure 8 presents the same information, but for a restricted sample to military commanders only.

Figure 7: Attacks after ceasefire Agreements

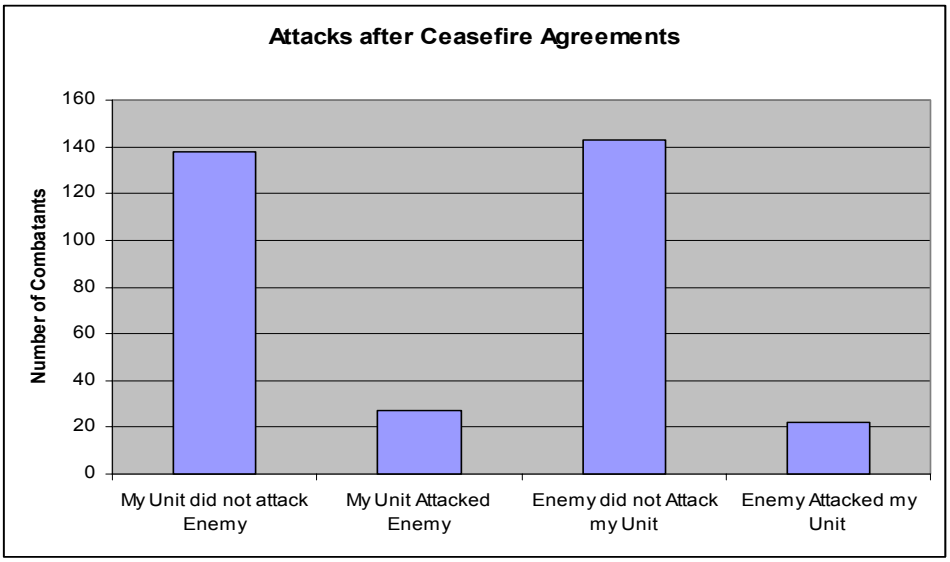
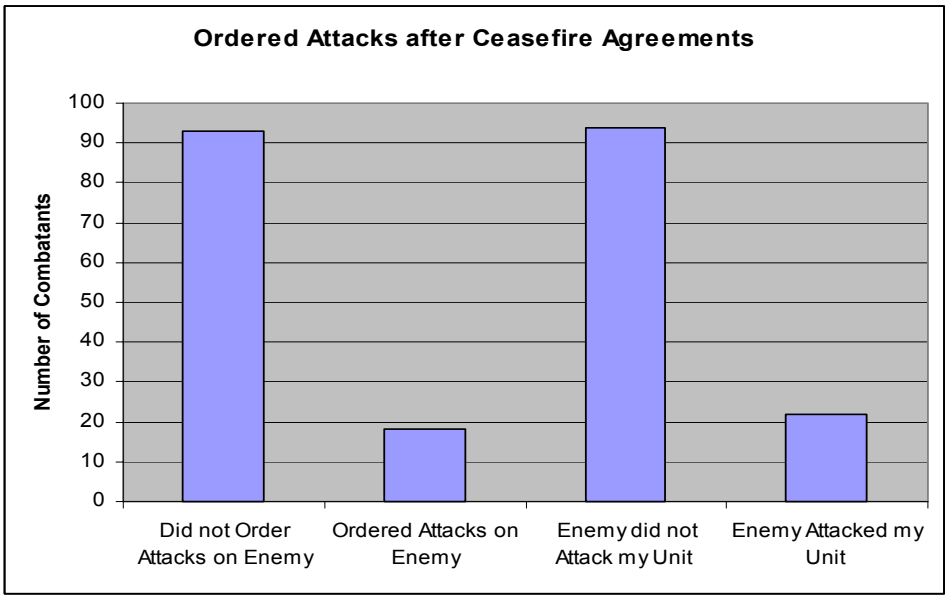


Figure 8: Attacks after ceasefire Agreements (Commanders Only)



Both these two graphs suggest that very few attacks occurred after the ceasefire agreements. Whether this is due to the presence of UN peacekeepers is something we explore further in the following section.

2. Timing of entrance in the peace process

The second is the timing of ex-combatants' entrance into the peace process (by formally handing in their weapons). In particular, we would like to determine whether combatants' timing of entrance into the peace process coincided with their exposure to UN peacekeepers. The pair of graphs bellow present the distribution of ex-combatants' timing of entrance into the peace process) and by armed groups.

Figure 9: Timing of Entrance into Peace Process

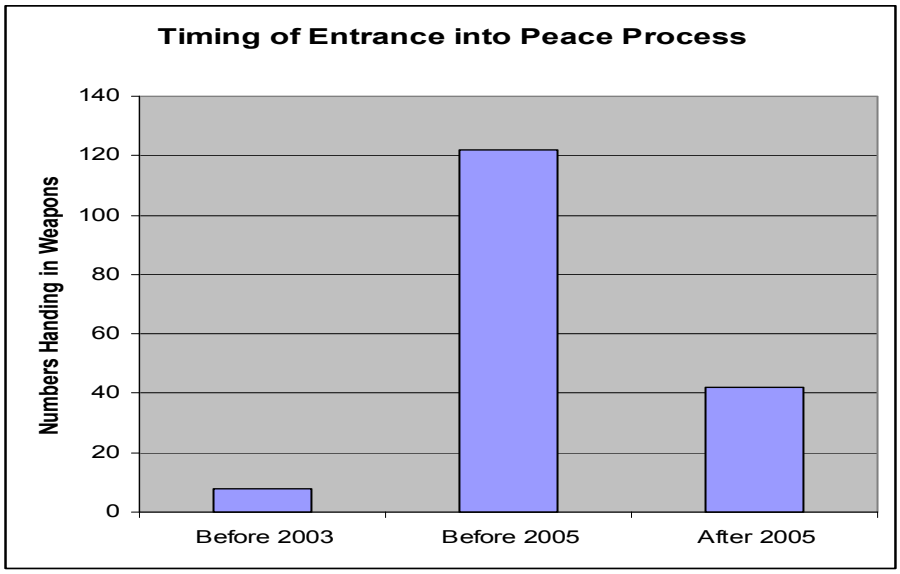
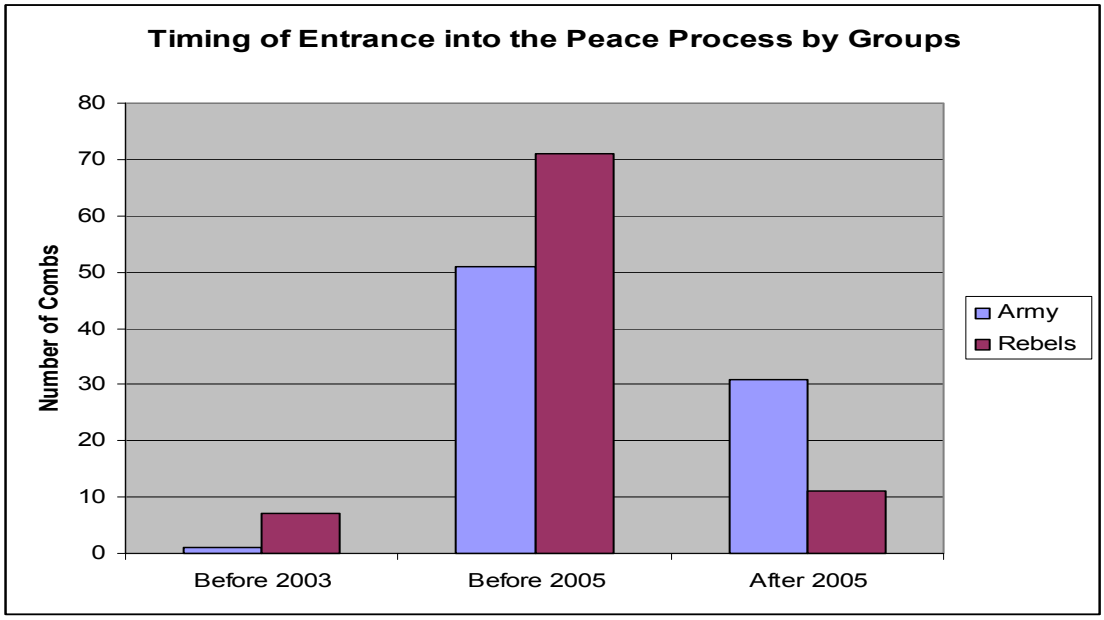


Figure 10: Timing of Entrance into Peace Process by Groups



The pair of graphs above suggest that there is indeed variation in timing of ex-combatants' entrance into the peace process. The first graph (figure 9) suggests that only six ex-combatants entered into the peace process (by formally handing in back their weapon) before 2003. The majority of ex-

combatants entered the peace process before the 2005 general elections, while a non-negligible number of ex-combatants joined the peace process after the 2005 elections. The second graph (figure 10) breaks these distributions by armed groups. It suggests that among those who joined the peace process before the 2005 general elections, the rebels outnumbered government forces by a wide margin (58 percent against 42 percent). In contrast, government forces outnumbered the rebels in the disarmament that took place after the 2005 general elections (74 percent and 26 percent). This big gap in the post-election disarmament patterns, however, may simply be reflective of the fact that most rebel forces had already disarmed.

3. Combatants' expectations about opponents

The final outcome of interest is ex-combatants' trust or expectation about the willingness of their opponents to uphold ceasefire and peace agreements. Here we are interested in determining the extent to which UN peacekeepers engage in confidence-building among belligerents. The next pair of graphs bellow (figure 11 and 12) presents the distribution of ex-combatants with respect to the second outcome (ex-combatants' expectation about the willingness of their opponents to uphold the peace process) and by armed groups.

Figure 11: Combatants' Expectations about their Opponents

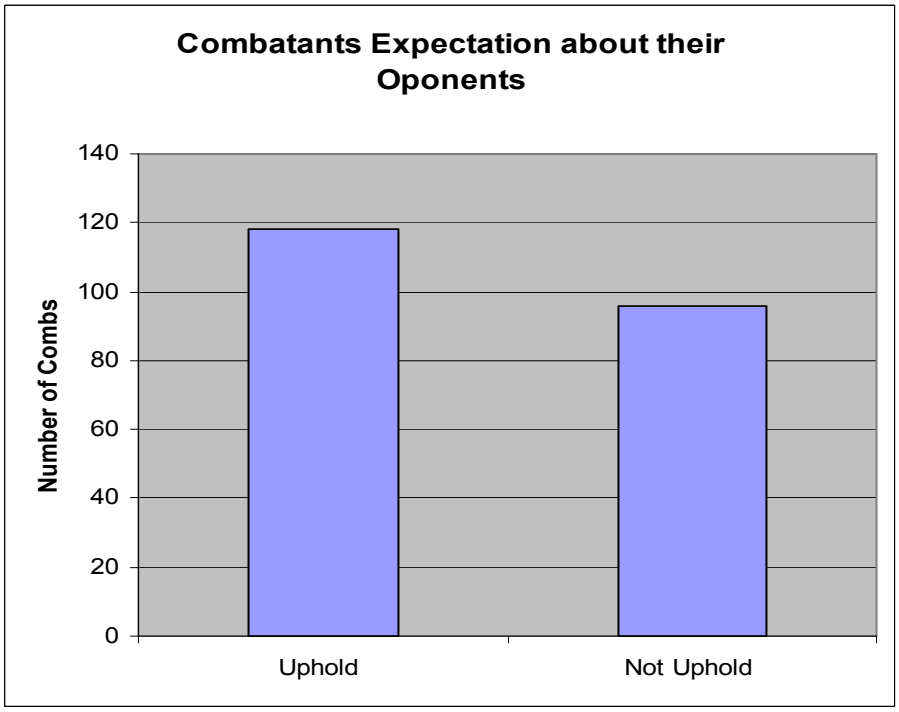


Figure 12: Combatants' Expectations about Opponents by Group

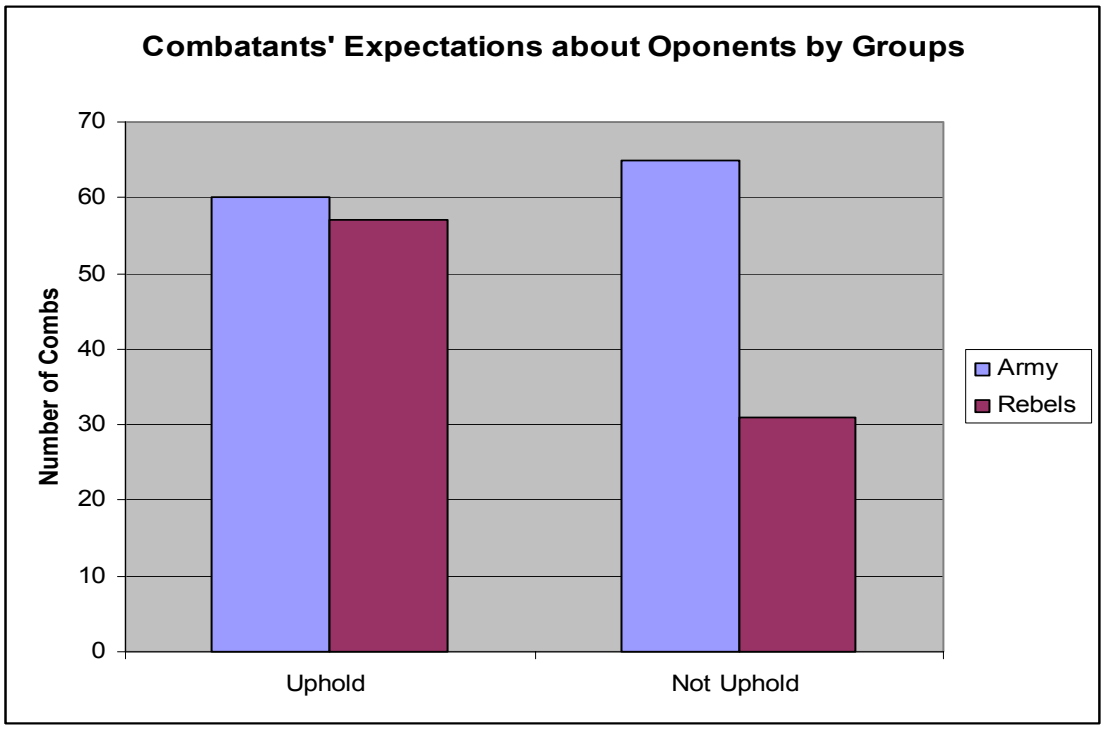


Figure 11 indicates that ex-combatants were split between those who trusted that their opponents would uphold the ceasefire and peace agreements and those who did not (55 percent and 45 percent respectively). The second graph (figure 12) presents the above information broken down by armed groups. About an equal number of rebel and government forces trusted each other to uphold the ceasefire and peace agreements (48 and 52 percent respectively). In contrast, there were twice as many government forces as rebel forces among those who did not trust their opponents to uphold ceasefire and peace agreements (68 and 32 percent respectively). When we look at these attitudes inside each faction, we find that government forces were nearly evenly split between those who trusted that their opponents will uphold the ceasefire and peace agreements and those who did not (48 and 52 percent respectively). On the rebel side, we find that an overwhelming majority (65 percent) trusted that their opponents will uphold the agreements.

The Impact of UN Peacekeeping on the Outcomes

An important question, then, is can we attribute the patterns depicted in the outcome above to the presence of UN peacekeepers? More specifically, was the low incidence of armed attacks on opponents (figure 7 and 8) a result of proximity to UN peacekeepers who might have placed constraints on combatants ability to attack each other? Did the timing of disarmament (depicted in figures 9 and 10) coincide with an increase in security conditions? Or were rebel forces more trusting of their opponents' willingness to uphold the agreements due to their exposure to UN peacekeepers? These questions take on particular importance given that our survey strongly indicates that uncertainty about whether opponents would disarm was the biggest obstacle to the settlement of the civil war. In response to the question "*would you have disarmed if the enemy had not disarmed?"* only 37 (or 20 percent) reported that they would have disarmed, while the overwhelming majority, 147 (or 80 percent) said that they would not have disarmed. To the question: *would you have disarmed if the enemy also disarmed*, only 10 (5 percent) of the 189 respondents reported that they would not have disarmed, whereas a staggering majority 179 (or 95 percent) answered that they would have disarmed. These responses suggest that belligerents did not necessarily need UN peacekeepers to implement disarmament

arrangements as long as they could find a suitable mechanism to ensure simultaneous disarmament.[27] However, given that the level of mistrust among belligerents was so high, it is unlikely that they would have abided by the peace agreements without the presence of a third party.

The next step, then, is to examine whether and how UN peacekeepers induced influenced the behavior and attitudes of ex-combatants in such a way that they were willing to participate in the peace process. In other words, we seek to examine whether ex-combatants who had exposure to UN peacekeepers and those who had no exposure exhibited noticeably different patterns in the timing of disarmament or attitudes towards the peace process. We hypothesize that combatants who had exposure to UN peacekeepers would have been more likely to join the peace process earlier (or have had a more positive attitude about their opponents' willingness to uphold the agreements) than those who had no exposure to UN peacekeepers. We use a three-dimensional framework to determine ex-combatants' exposure to UN peacekeepers. First, *we have the overall strength hypothesis*, which suggests that we can simply look at the degree of congruence between the macro-level deployment rates of UN peacekeepers and the rates of combatants' participation into the peace process. At lower levels of UN deployments we would expect lower rates of participation into the peace process. We have data on UN deployments in Burundi over time. As figure 2 (in this report) indicates, ONUB military strength was steadily increasing and reached its overall maximum strength around November of 2004. Hence, if the overall strength hypothesis is correct, we should expect to see some moderate levels of disarmament before November 2004, and only considerable jumps thereafter. While it is true, as figure 9 indicates, that the vast majority of ex-combatants disarmed before the 2005 general elections, the available data does not give us precise disarmament rates at different levels of deployments. Thus, we cannot make any meaningful inference about the relationship between levels of UN deployments and rates of participation in the peace process. More fine-grained data will be needed to investigate this hypothesis more fully.

The second way of determining ex-combatants' exposure to UN peacekeepers is to trace deployments of UN peacekeepers across regions inside the host country. This is a *meso or intermediate) level hypothesis*, which allows us to determine whether patterns of deployment (in terms of early versus late deployment or deployment in some locations rather than others) inside the country correspond with disarmament patterns. That is, we want to observe whether combatants who were in regions were UN peacekeepers were deployed behaved differently than those who were in other regions. To examine this hypothesis, we use data and information from the UN Department of Peacekeeping and ONUB headquarters to construct spatial and temporal distribution of peacekeepers in Burundi (that is, communes in which peacekeepers were deployed and the dates on which these deployments occurred). The exercise is to match individual locations of ex-combatants during the war with towns in which peacekeepers were stationed. We have data on the location of peacekeepers (the deployment maps in the appendix shows ONUB's deployment patterns over time and across space), but the data on the location of ex-combatants is difficult to code since people may have moved around during the war. [28]

The third way of determining ex-combatants' exposure to UN peacekeepers is to ask direct questions about their locations and exposure to UN peacekeepers through surveys. We also seek to elucidate ex-combatants' perceptions about the different aspects of ONUB's work. One question asks: *before the end of the war, were ONUB peacekeepers stationed in or patrolling in areas where your unit was operating?* The first graph (figure 13) below presents the distribution of ex-combatants'

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[27] In fact, belligerents in Burundi had a somewhat particular experience with peacekeeping. They took the lead in designing and implementing their own solutions (solutions which were adapted to Burundian realities) through the Joint Ceasefire Commission although ONUB continued to be involved to some degree.

[28] We are not able to provide any results on this at this point because we are still trying to match ex-combatants' locations during the war and the deployment patterns of UN peacekeepers.

exposure to peace keeping and the next graph (figure 14) breaks this distribution by factional affiliation.

Figure 13: Combatants' Exposure to Peacekeepers

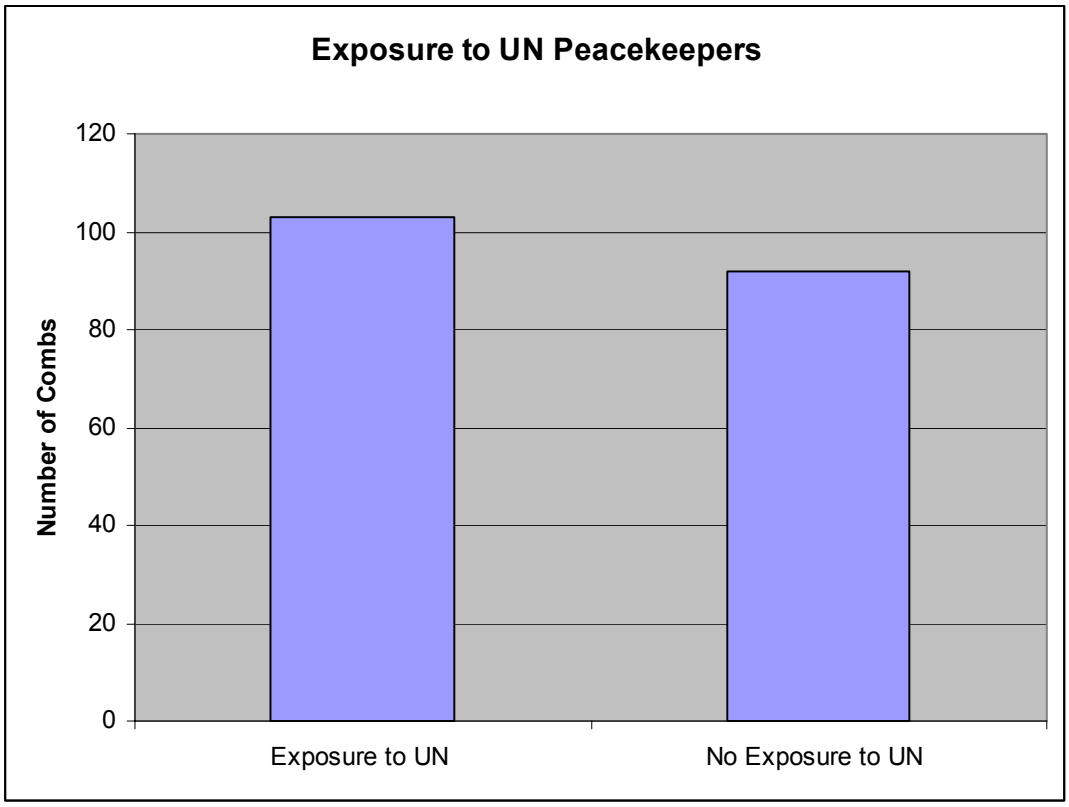
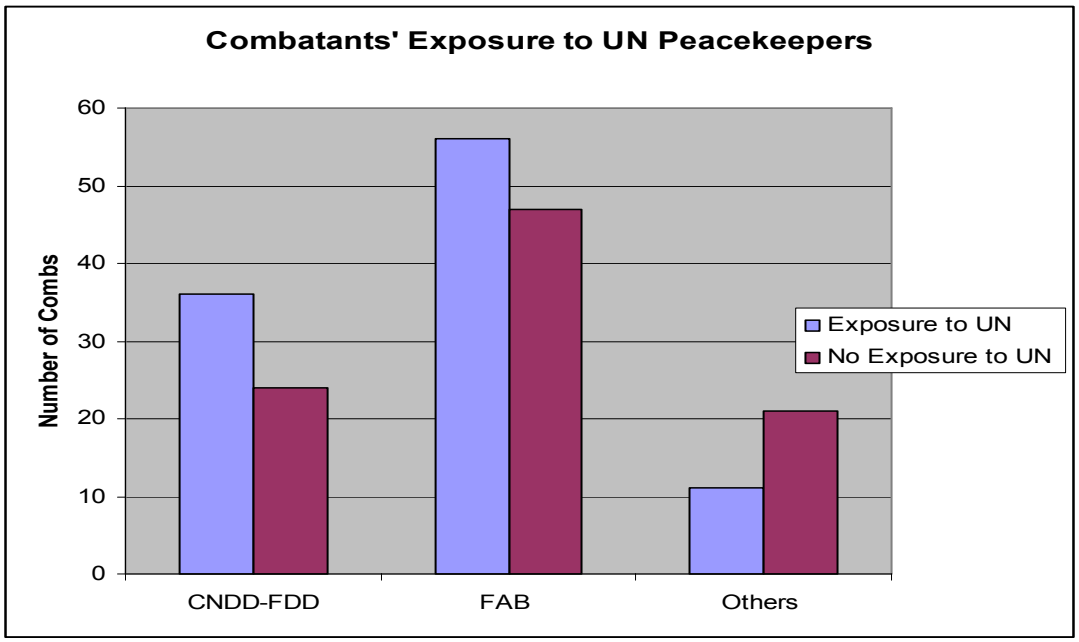


Figure 14: Combatants' Exposure to Peacekeepers by Faction



The two graphs above indicate that about 103 out of 195 (or 53 percent) of ex-combatants had exposure to UN peacekeepers prior to entering cantonment zones. The later graph, which shows ex-combatants' exposure to UN peacekeepers by factional affiliation, reveals that in the two main factions

(the government's army and CNDD-FDD), ex-combatants who reported to have had exposure to UN peacekeepers slightly outnumbered those who did not have exposure to UN peacekeepers. The opposite is true for ex-combatants from minor parties subsumed under the category 'other' in figure 12. Moreover, preliminary statistical tests suggest that there is no relationship between factional affiliation and exposure to UN peacekeepers. This means that ex-combatants from different factions were equally likely to have exposure to UN peacekeepers.

1. ONUB's impact on Combatants' behavior prior to entering cantonment zones

ONUB deployment maps (figure 3-6) and responses from ex-combatants suggest that UN peacekeepers were not deployed in all areas where hostilities were still taking place. Here we are interested in whether UN peacekeepers change the dynamics on the battle field (i.e. restrained the ability of ex-combatants to launch attacks on each other). Figures 7 and 8, however suggested that violations of the ceasefire agreements were significantly lower. We then sought to determine whether these low levels of violations were a result of UN peacekeepers' presence. An examination of the behavior of combatants and military commanders in areas where UN peacekeepers were not deployed reveals strikingly similar results. Figure 15 and 16 bellow present the distribution of military commanders who had exposure to UN peacekeepers and those who did not respectively.

Figure 15: Attacks while UN Peacekeepers were in the Area

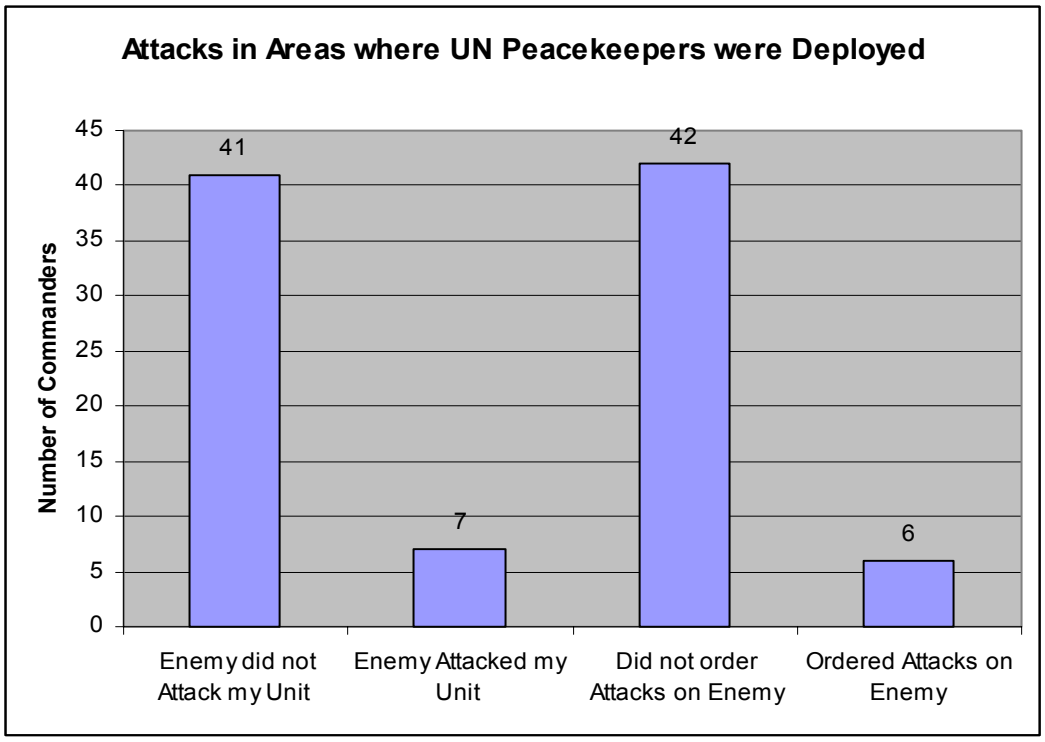
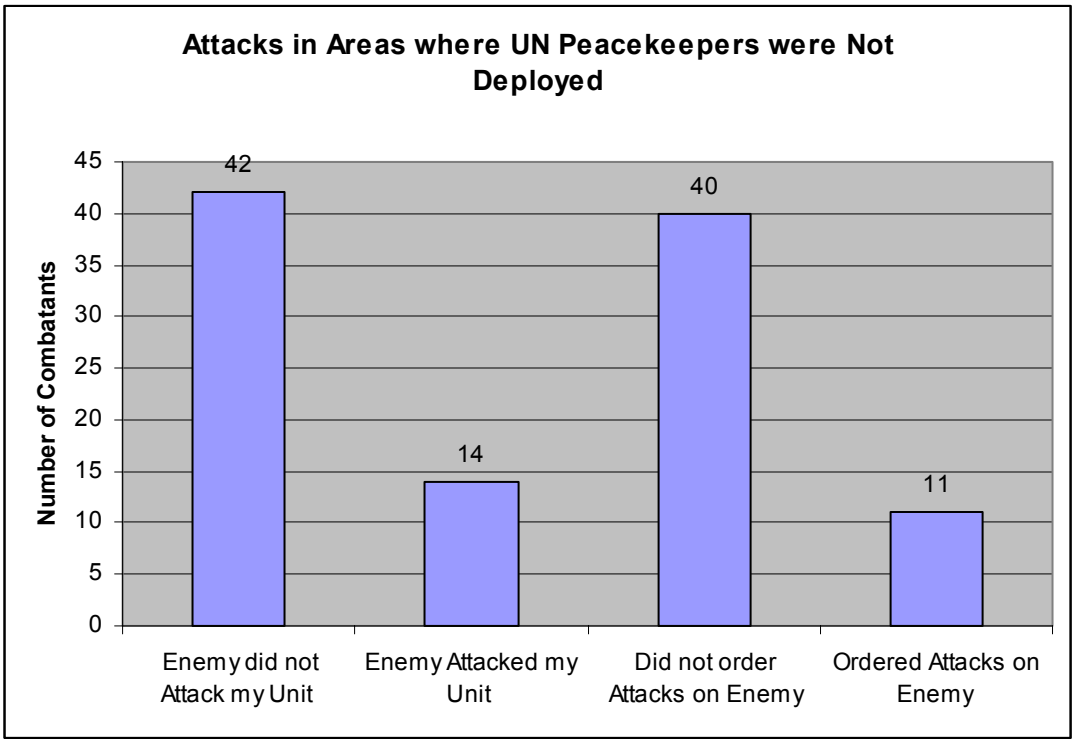


Figure 16: Attacks while UN Peacekeepers were not in the Area



As the two figures above suggest there are hardly any differences between the behavior of combatants and their commanders in areas where UN peacekeepers were deployed from those where UN peacekeepers were not deployed. This suggests that any constraint on combatants' ability to launch attacks on each other was not a result of the presence of UN peacekeepers. Statistical tests also support this suggestion. That UN peacekeepers had no impact on the behavior of combatants prior to entering assembly areas or cantonment zones, however, is not surprising. Accounts from focus groups and in-depth interviews with key and political and military leaders suggested that, from a military stand point, the civil war in Burundi had reached a stalemate. In one of our focus groups in the town of Gitega, one commander of the rank of Major in the current police force (who was colonel in CNDD-FDD) confided that at some point during the war it became evident that neither side wanted to continue fighting. Belligerents would stay in the same areas for weeks (even moths) without attacking each others. This account is also supported by our survey data on the extent and intensity of military operations in the period leading up to the end of the war.

2. ONUB's impact on the timing of combatants' participation in the peace process[29]

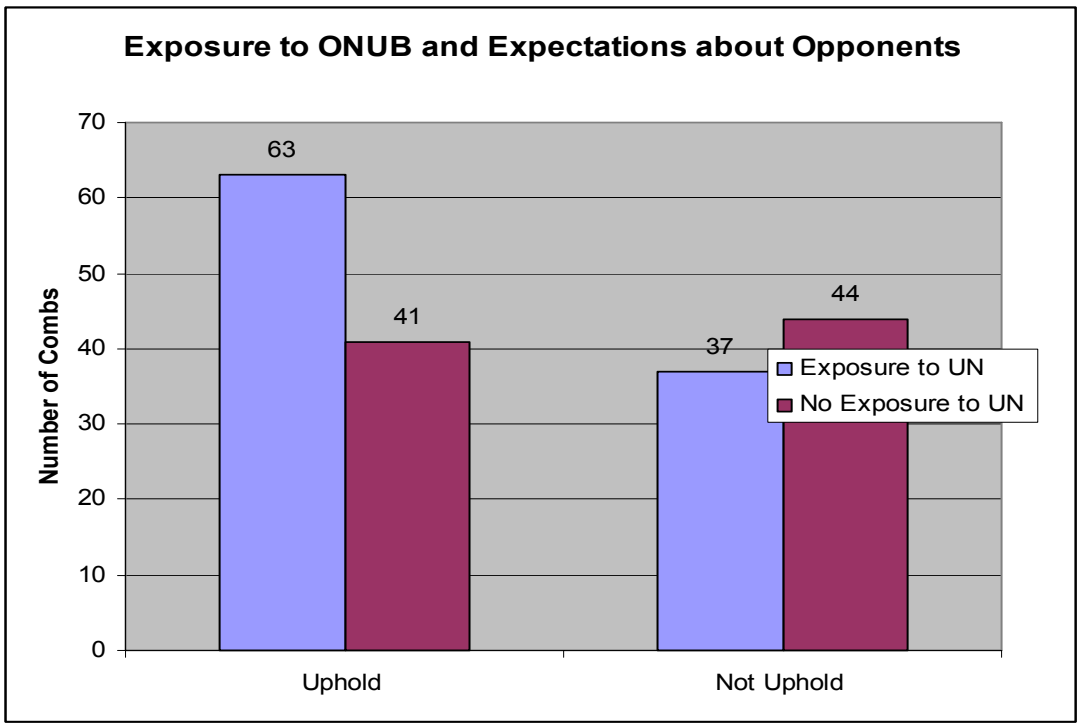
3. ONUB's impact on ex-combatants' trust for their opponents

Here we examine the relationship between exposure to UN peacekeeping and ex-combatants' expectations about the willingness of their opponents to uphold ceasefire and peace agreements. We find that the vast majority of ex-combatants who had exposure to UN peacekeepers (63 percent) trusted that their opponents will uphold the ceasefire and peace agreements while only 37 percent did

[29] More fin-grained data is needed to examine the relationship between exposure to UN peacekeepers and the timing of entrance in the peace process.

not trust their opponents. In contrast, among ex-combatants who did not have exposure to UN peacekeepers, the number of combatants who did not trust their opponents to abide by the agreements was slightly higher than the number of those who trusted their opponents will abide by the agreements (44 and 41 percent respectively). The graph below presents these distributions.

Figure 17: Exposure to Peacekeepers and Expectations about Opponents



This graph suggests that exposure to UN peacekeepers may contribute to trust that opponents will uphold ceasefire and peace agreements. Those exposed to UN peacekeepers, then, would be more likely to join the peace process. But further examination caution us against jumping to such conclusions. Figure 12 suggested that government forces were nearly evenly split between those who trusted that their opponents would uphold ceasefire and peace agreements and those who did not (48 and 52 percent respectively), while on the rebel side, an overwhelming majority (65 percent) trusted that their opponents would uphold the agreements. Had these differences been a result of exposure to UN peacekeepers, then we would expect to see that ex-combatants from rebel groups had more exposure to UN peacekeepers. The factional distribution of figure 13, however, does not suggest that ex-combatants from rebel groups had more exposure to UN peacekeepers than government forces. In fact, it suggests quite the opposite. Ex-combatants from rebel groups appear to be evenly split between those who had exposure to UN peacekeepers and those who did not (51 and 49 percent respectively). On the government side, there are more ex-combatants who had exposure to UN peacekeepers (55 percent). Thus, exposure to UN peacekeepers alone cannot account for the differences in attitudes between rebel and government forces. As a result, the extent to which UN peacekeepers influenced ex-combatants' ultimate decision to join the peace process remains unclear.

4. Ex-Combatants' perceptions about ONUB work after entering Cantonment Zones

One thing these data do not tell is the time period in which ex-combatants were referring to. As we mentioned earlier, ONUB arrived in Burundi late in the peace process. In fact, a significant number of combatants came in direct contact with UN peacekeepers for the first time only after they entered cantonment zones. Given that the bulk of UN peacekeepers arrived in Burundi as combatants were

beginning to enter into assembly areas and subsequently into cantonment zones, perhaps it is in those areas that UN peacekeepers had the strongest influence on ex-combatants' behavior and attitudes. Indeed, most activities related to ONUB's mandate (see figure 1) seem to take place within assembly areas or disarmament points. Thus, part of our survey sought to capture ex-combatants' perception about UN peacekeepers' work in the disarmament and demobilization process. Ex-combatants' perceptions were positive overall. They expressed appreciation for ONUB's work. For instance, when asked whether they would have disarmed without the presence of UN peacekeepers, 56 percent of ex-combatants reported that they would not have disarmed while only 44 percent said that they would have regardless. In addition, we asked a series of questions to get at ex-combatants' perceptions about the specific ways in which UN peacekeepers helped them through the disarmament and demobilization process. 62 percent reported that they did not feel less secure and 80 percent responded that they were not worried that the weapons they were turning in to UN peacekeepers would be stolen by the enemy combatants. Finally, about 74 percent of respondents reported that protection of cantonment zones by UN peacekeepers helped them feel more secure and an equal number also reported that UN peacekeepers brought solutions to interpersonal problems inside cantonment zones.

These results suggest that the work of UN peacekeepers inside assembly areas, and cantonment zones improved the security of disarmed combatants by physically protecting cantonment zones and weapon storage centers. This increased confidence in the disarmament and demobilization process, ensured its smooth continuation, and in then end facilitated the successful conclusion of the peace process.

Conclusions and Future Research

Preliminary results suggest that although UN peacekeepers may not have played any role in the peace process prior to combatants' entrance into assembly areas and cantonment zones, they did, however, have an overall positive impact on security situations of ex-combatants after they entered in these areas. Improving the security conditions of ex-combatants in (even if only in the last stage of the disarmament and demobilization process) cannot be underestimated. This is indeed a necessary step towards the durability of peace. To the extent that UN peacekeepers improve the security environment, combatants can proceed through the disarmament and demobilization process without fears or feelings of vulnerability and thus, facilitate a successful conclusion of the peace process.

The main objectives of this study have been primarily exploratory. We sought to explore the feasibility of micro-level research on peacekeeping. To that end, preliminary results presented here simply helped to start unpacking the notion of "peacekeeping" and pin down fruitful areas for our further research. As such, they are merely the begging and not the end product. There are significant conceptual, theoretical and methodological issues we need to wrestle with before the next step. First, we need a better conceptualization of "exposure to peacekeeping" and identify ways to measure it more adequately. This might include not just the deployments, but also the actual numbers and relative capabilities of UN peacekeepers in different areas of the country. We also need to take into account the extent of ex-combatants' exposure to peacekeepers as well as the specific strategies that UN peacekeepers employ (such as patrols, aerial reconnaissance missions etc.). The aim would be to establish not just correlations between the presence of UN peacekeepers and combatants' behavior, but also some direct links between peacekeeping strategies and combatants' behavior.

Furthermore, we need identify precise time periods relative to outcome measures such as timing of entrance into the peace process and other outcome variables. Finally, we need to think about potential selection problems in peacekeeping deployments. Selection problems in peacekeeping do not take place only in New York. To our knowledge, deployments of troops in different areas of the host country are not random and this might hinder any attempt at identifying the impact of UN peacekeepers properly. Nevertheless, this venue present promises to identify and assess the causal

mechanisms linking the presence of peacekeepers to the durability of peace (or lack of thereof) in the aftermath of civil war.

Demobilization, Disarmament & Reintegration

Evaluating the reintegration of ex-combatants

The aim of this section is to describe our framework for evaluating programs aimed at reintegrating Burundian ex-combatants into civilian life. Our key research questions are, (i) what are the main determinants of successful reintegration among ex-combatants? and (ii) what are the measurable effects of formal reintegration programs on reintegration outcomes? Of course, before attempting to address these questions it is necessary to define what "successful reintegration" means. In this section, we do just that. We follow by reporting on preliminary results from the 2006 pilot survey in Burundi and outline areas for further examination in our ongoing survey work. A primary goal of our reintegration research is to inform the design of reintegration programming generally and to assess the performance of reintegration programming in Burundi in particular. As such, we seek findings that allow for comparability with other cases (e.g. Sierra Leone, Liberia, Uganda, and Colombia where similar evaluations have been taking place) and that present a detailed picture of problems and prospects specific to Burundi.

Characterizing the ex-combatant population and sample

Before defining "reintegration," it is useful to clarify the scope of the analysis. We focus here on outcomes associated with *adult ex-combatants*. Within Burundi, this refers to a subclass of the population that includes those who satisfy three criteria: (i) they were once members of either the national army or a rebel group, and thus distinct from "civilians"; (ii) they were not absorbed into the national police or army; and (iii) they were over the age of 18 in 2006. This subclass of the population thus includes those adult former civil war combatants who face the challenge of reintegrating into civilian life. They are the primary beneficiaries of the national reintegration program, steered by the National Commission for Demobilization, Reinsertion, and Reintegration (CNDRR, according to the French acronym) in cooperation with the World Bank's Multi-Country Demobilization and Reintegration Program (MDRP). The 2006 ex-combatant population in Burundi included those demobilized during the first phase of the two-phase 2004-2008 national demobilization process. This included approximately 9,000 adult former FAB and rebel group members, 27,000 adult former government and rebel-sponsored militia, and 8,000 child ex-combatants.

Our pilot survey targeted adult former FAB and rebel members.[30] Table 1 shows the 2006 pilot survey sample of ex-combatants, broken down by faction. Also reported are distributions across ethnicity, out-going rank, and whether or not demobilization was voluntary. An important fact is that ex-combatants in the sample tended to state that their demobilization was voluntary.[31]

[30] In forthcoming survey work, we intend to target militia members as well.

[31] CNDRR program officers with whom we spoke also stated that they believed that most ex-combatants voluntarily opted out of integration into either the police or army.

Table 1: Characteristics of ex-combatant pilot study sample

	Ethnicity		*Out-going rank*			*Demobilization choice*		
Faction	*Hutu*	*Tutsi*	*Officer*	*Subofficer*	*Rank/file*	*Involuntary*	*Voluntary*	*Total*
FAB	22	48	0	53	17	12	56	69
CNDD-FDD	39	1	7	27	6	6	34	40
CNDD-Nyangoma	10	1	3	7	1	4	7	11
CNDD-Ndayikengurukiye	2	0	1	1	0	2	0	2
FNL-Rwasa	1	0	0	1	0	0	1	1
FNL-Mugabarabona	1	0	1	0	0	0	1	1
FROLINA	2	0	0	2	0	1	1	2
PALIPEHUTU-Karatasi	3	0	0	3	0	1	2	3
PALIPEHUTU (unspecified)	3	0	1	2	0	1	2	3
Gardiens de la Paix (govt militia)	1	0	0	0	1	1	0	1
Total	*84*	*50*	*13*	*96*	*25*	*28*	*104*	*133*

Defining and measuring reintegration outcomes

We assess reintegration outcomes with respect to the goal of seeing society progress toward "normal" economic and political development. This is in line with the objectives of the primary patron of reintegration programming in Burundi—the World Bank's Multi-Country Demobilization and Reintegration Program (MDRP)—and is also a reasonable normative benchmark in its own right. Given these goals, the framework that we employ measures reintegration outcomes in three dimensions:

(i) *Social reintegration*, referring to relations with family and community members. Degree of social reintegration was measured in the pilot study using survey subjects' responses to questions about their relations with community and with family. We also capture attitudes among civilians toward ex-combatants as a complement to ex-combatants' responses.

(ii) *Economic reintegration*, referring to prospects for a productive livelihood in the post-war context. Our pilot study measures of economic reintegration include cash income and employment. These measures capture much variation in outcomes associated with market exchange, although they do not capture many aspects of well-being associated with subsistence farming.[32] Another issue, and one that we could not deal with in pilot study due to information limitations, is the extent to which respondents in the survey reported cash income including or on top of their "Transitional Subsistence Allowance" paid from the reintegration program.[33] This complicates comparisons with civilians

[32] For farmers, cash income usually contributes only a fraction to material well-being. This is evident in our sample. Median cash income for all non-farmers is 15000FBU/month whereas for farmers it is 5000FBU/month. If we restrict attention to those reporting positive income, the medians are 28000FBU/month and 10000FBU/month respectively. In further survey work, we plan to use other measures of income for farmers, such as agricultural product. The issue is particularly relevant in Burundi, where some 85% of the population is engaged in agriculture at some level. Nonetheless, cash income is a useful measure of an individual's performance in market exchange, assuming that we account for farmers.

[33] Two facts lead us to believe that respondents were sometimes, if not always, reporting earnings aside from allowances. First, in the survey, respondents were told to report their monthly cash income; the reintegration allowance was dispensed in quarterly tranches to a bank account, which suggests that respondents were likely to separate the two in their mind in

who receive no such allowance. In addition, the amount paid to ex-combatants varied according to outgoing rank. In our preliminary analyses below, we attempt to correct for these by controlling for farmers and outgoing rank of ex-combatants. But these are imperfect corrections. With information that we have obtained on the disbursement of these allowances, we plan to adjust our measurements accordingly in our further survey work.

(iii) *Political reintegration*, referring to commitment of individuals to peaceful democratic political expression. In the 2006 pilot, we recorded whether survey respondents voted during the 2005 elections in Burundi. In our further surveying we plan also to measure respondents' attitudes toward democratic institutions as means of solving problems that the respondents themselves identify as important.

The results that we report in the following subsections present summary statistics on these outcomes. With respect to economic and political reintegration outcomes, a relevant normative benchmark against which to compare ex-combatant outcomes will be average outcomes among civilians. Where possible, we show these comparisons across ex-combatants and civilians.

From a policy and justice perspective, comparisons with civilians are important. The evaluation of *reintegration programs* treads a fine line between concerns about justice implications, the incentives of ex-combatants, and the incentives of civilians. On the one hand, reintegration programs may contributes to undesirable inequality between ex-combatants and civilians in terms of income or work opportunities. For example, if humanitarian and development aid should be targeted to the most needy, then it is not clear that ex-combatants would qualify for such concentrated benefits. If ex-combatant status is associated with privilege, then civilians may have incentives to assume the role of combatant—that is, to pick up a gun—in order to secure such privilege. On the other hand, if the reintegration of ex-combatants into civilian life is a necessary condition for a sustainable transition from war to peace, then the concentration of benefits for ex-combatants may be warranted. As individuals who have demonstrated their willingness in the past to fight, there is reason to ensure that their material well-being is good enough such that they have no reason to pick up guns again. With respect to justice, communities may have an interest in punishing ex-combatants for hardships brought on during the war. Alternatively, communities may have an interest in rewarding ex-combatants for the gains that they achieved in the war. Insofar as reintegration programs alter distributive outcomes, they interfere with these community reward and punishment mechanisms and thus become intertwined with the administering of transitional justice.

Social reintegration

Ex-combatant social dislocation. According to self-reported evidence, social dislocation is not a widespread phenomenon among ex-combatants. Only 12% of ex-combatants reported any problems with family and 22% reported any problems with neighbors or community. Most ex-combatants have regular relations with elders (83%) and share their feelings with friends and family (90%), while a small minority reports arguing with friends and family (10%) or feeling as if they have caused any

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their responses. Second, among ex-combatants, median reported income was 15500FBU/month, which is less than the monthly average that was supposed to be dispensed via the allowance. This intended amount was to range typically between 566,000FBU-644,000FBU over 18 months. Delays in program implementation have meant that the monthly average allowances are actually less than the total divided over 18 months. But even if we double the time over which allowances are delivered, the minimum allowance would still be 15,722FBU/month—higher than the median that we recorded. The problem is that we cannot know for sure which respondents included the allowance and which did not. This is clearly an issue to be clarified in the follow-on survey.

trouble to their families or communities (12%). Keeping the small number of cases in mind, it is worth noting that reports of problems and arguments with family are significantly more likely among Hutus (discussed below). The low incidence of self-reported social dislocation is consistent with findings from the surveys in Sierra Leone and Northern Uganda. A remarkable statistic from our sample is the level of resettlement among ex-combatants. About 37% of ex-combatants report that they do not live in the same communities as from before the war, and an alternative measure in the survey puts the number at about 29%. Measurement problems prevent a precise estimation for civilians, but it seems that the number of civilians in our sample that moved into new communities is very small. Further surveying will seek to illuminate these differences.

Trust between ex-combatants and civilian populations. According to our sample, levels of trust between ex-combatants and civilians are marked by general acceptance. As Figure 1 shows, civilians overwhelming stated that ex-combatants, whether ex-rebels or ex-FAB, were accepted, rather than being feared, distrusted, or respected. No significant difference was found in attitudes toward either former rebels or ex-FAB across ethnic lines. Correspondingly, ex-combatants' perceptions of how they are viewed by their communities also tended toward a sense of general acceptance; however, it is interesting to note that Hutu ex-combatants, regardless of whether they were ex-rebels or ex-FAB (not shown), tended to be more wary. This is evident in Figure 2. We also measured conciliatoriness among civilians by asking them whether communities should welcome back ex-combatants known to have violated human rights. As Table 2 indicates, attitudes were generally conciliatory, insofar as very few (6 out of 120) stated that human rights violators were unwelcome under any circumstances. However, there is a clear break across ethnic lines on whether such acceptance should be conditional on efforts by human rights violators to show that they are sorry. Tutsi civilians in the sample were significantly more likely to condition their acceptance on admission of guilt or remorse.

Figure 1

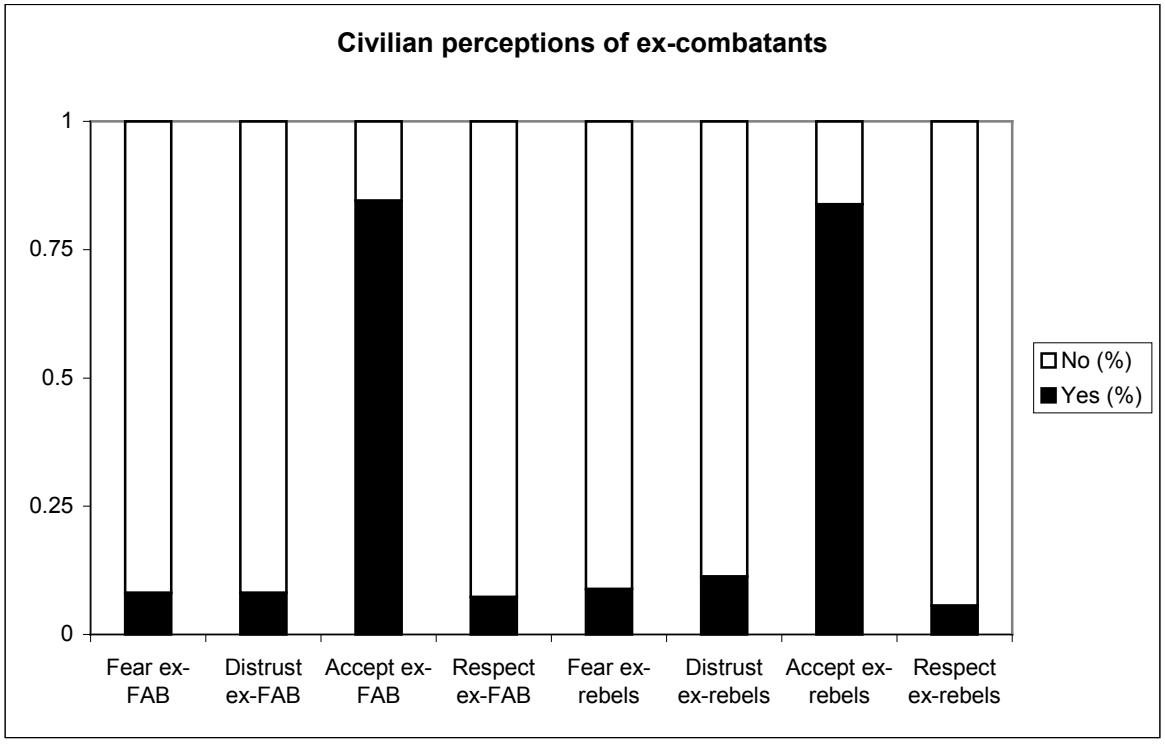
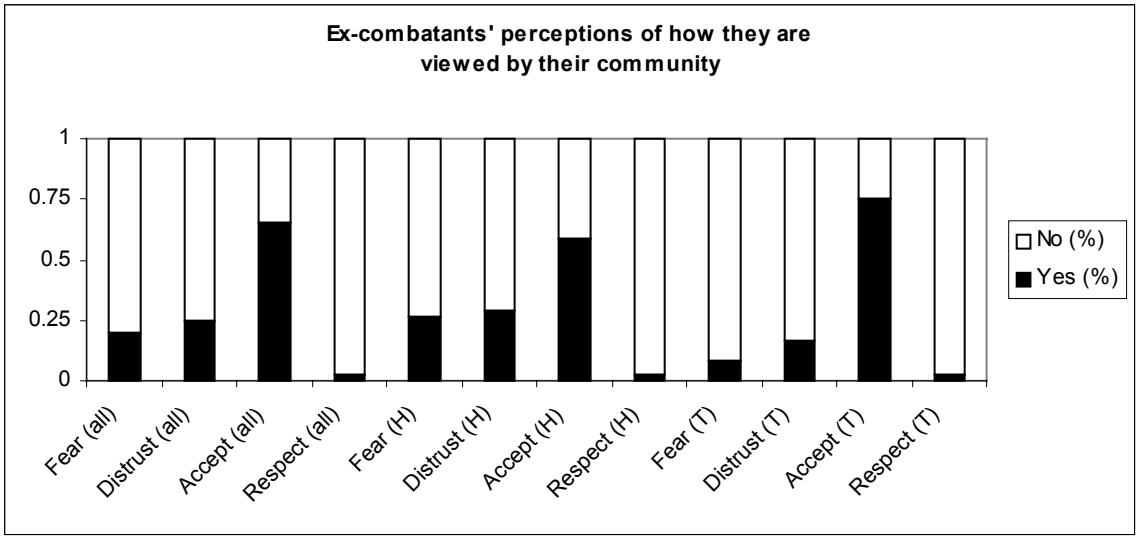


Figure 2



Note: "all" refers to all respondents; "T" refers to Tutsi respondents, and "H" refers to Hutu respondents.

Table 2: Civilian attitudes toward past-human-rights-violating ex-combatants

	None welcome		*Conditional welcome*		*All welcome*		*Total*	
Ethnicity	*Freq.*	*Row Percent*	*Freq.*	*Row Percent*	*Freq.*	*Row Percent*	*Freq.*	*Row Percent*
Hutu	5	7%	29	**38%**	42	**55%**	76	100%
Tutsi	1	2%	30	**68%**	13	**30%**	44	100%
Total	6	5%	55	46%	59	49%	120	100%

Ethnicity and social reintegration. Given the centrality of ethnicity to the conflict and politics in Burundi, it is worth discussing further some of our basic pilot study results on where ethnicity marks differences in attitudes and behaviors relevant to social reintegration. With respect to social dislocation, Hutu ex-combatants are significantly more likely to report having problems with their families and neighbors. Simple cross-tabulation tests (not shown) show that the differences are stronger when we divide the sample by ethnicity rather than by whether the ex-combatant is an ex-rebel or ex-FAB, suggesting the result is attributable to ethnicity. Ethnicity does not seem to be a hard line separating levels of trust between the ex-combatant and civilian populations. As discussed above, the only differences in attitudes that we found were subtle differences in civilians' attitudes toward the way human rights violators should be treated and in ex-combatants' perceptions of how they are viewed by their communities.

Economic reintegration.

Employment. As background to employment outcomes among ex-combatants, it should be noted that our pilot results suggest a substantial transformation of the structure of employment as a result of the war. Applying appropriate probability weights on our observations, the estimated change is presented in Table 3. Of course, it is not clear whether these represent temporary or permanent changes in the structure of employment. In either case, the result is important. If the changes are permanent, then the consequences of war are sure to alter the dynamics of development in the country. If they are temporary, then adjustment back to the pre-war distribution is likely to be an important factor in determining developmental outcomes.

Given this background, Table 4 shows that ex-combatants are arrayed very differently than civilians in terms of employment. The largest differences occur with in farming, small commerce, and unemployment. As with the estimated changes in overall employment structure, it is not clear whether these are permanent or temporary dispositions; but for the same reasons, the differences are important either way. Our further surveying will aim to uncover the determinants of these employment trends among ex-combatants.

Income. As noted above, the pilot study income measure suffers from two important drawbacks: it is only a partial measure of the material well-being of farmers, and it contains no indication of whether reintegration program benefits are included or not. Nonetheless, for what it is worth, we report income distributions for ex-combatants and civilians from our sample. Without taking farmers into account, median monthly income is 2 to 3 times higher for ex-combatants. This reflects the fact that ex-combatants are much more likely to have non-farming jobs, as evident from Table 4. Median incomes across the groups are nearly identical when we exclude farmers (Table 5).

Keeping in mind the data limitations, a few important preliminary results are suggested by the data. In brief, an ex-combatant "income premium" contributes to income differences among Hutus and among farmers. The income premium may be attributable to the reintegration allowance discussed above. Social relations appear not to contribute to income variation in a manner presumed by social capital theories. Rather, sorting and excess labor effects appear to overwhelm any social capital effects. Details are below on these results and other proposed areas of enquiry are below.

- *Ethnicity*: No striking patterns appear to be associated with ethnicity as a variable. Among Hutus however, there is slight indication of a distorting income premium attached to being an ex-combatant. The relationship is not terribly strong (sample probability-weighted regression estimates are just above the 10% significance level at best), although the predicted effect is large (a premium of approximately 35%-40%, see Table 6). It is possible that the intra-Hutu income difference is a result of the reintegration income allowance. Regardless of the causes, the disparity is noteworthy for the reasons discussed above about the implications of inequality-creating/sustaining reintegration programs.

- *Social capital*: An area of interest for the survey is to examine the social determinants of reintegration outcomes. Our prior expectation is that information and risk-sharing available through kin and community networks allow individuals to seize opportunities to enhance their well-being. The pilot survey used two proxy measures of social capital: (i) whether respondents resided in their prewar communities and (ii) the number of immediate family members surviving.
    - Pilot survey results show no strong relationship between relocation and income; indeed if there is any effect, it is that relocation is weakly associated with higher income (not shown). Perhaps the result is attributable to a "Tiebout sorting" effect (familiar to economists) overwhelming social network effects. This remains an area for examination in our further survey work.
    - With respect to the consequences of family attrition, we find that among farmers, there is a strong relationship between income levels and numbers of family members surviving. However, given that this effect is limited to farmers, it seems to have less to do with social network effects than with excess labor. A conventional view in development economics is that market exchange among farmers is made possible when there is excess labor within the family; the outcome from the pilot survey is more consistent with this account. What is worth noting with respect to reintegration is that the effect is appears to be stronger among civilians than ex-combatants, although the small sample size makes the test statistically inconclusive once controls are introduced (Table 7). Like ethnicity above, the disparity may be caused by reintegration allowances.

- *Traumatization*: Another area of interest with respect to economic reintegration is the effect of trauma on employment and income. The interest follows from work by Humphreys and Weinstein (2005) and Blattman (2006) in which participation, exposure, or association with violence has played a role, though sometimes limited, in determining reintegration outcomes. Preliminary results from the pilot study suggest that trauma, as expressed through ex-combatants reports of experiencing pains or headaches when thinking about the war, are associated with lower income (not shown). However, we are continuing to refine our analysis of these factors, and leave this for future work.

- *Human capital*. The pilot survey included measures of age and years of schooling that allow us to proxy for the likely effects of civil war participation on human capital development. Our presumption is that those who joined at a younger age and those who spent more time in an armed group would be at a disadvantage in reintegrating economically. This hypothesis is drawn from Blattman (2006)'s findings in Northern Uganda. In Blattman's study, negative economic consequences among youth of being abducted into the Lord's Resistance Army derive mostly from being denied the opportunity to develop economically useful human capital. Specifically, abductees' absence from school and social interaction during adolescent years lowered their economic prospects when they attempted to reintegrate. We leave this hypothesis to be tested in further work.

- *Community propensity to reward or punish*: A final area of interest with respect to economic reintegration is the extent to which communities are willing to welcome back ex-combatants. Interest in this factor is motivated by the justice concerns outlined above. In addition, Humphreys and Weinstein (2006)'s findings in Sierra Leone link an ex-combatant's membership in an abusively violent armed groups to negative social and economic reintegration prospects; a possible reason is that communities punish abusive ex-combatants. Finally, during focus groups in Burundi, interviewees from different communities commented that communities and families have a right to reject abusive ex-combatants who try to come back home. The goal of this analysis will be to determine whether the outcomes reported in the social reintegration section above map onto economic reintegration outcomes in a manner indicative of "community punishment" or "community rewarding" effects. As with traumatization, this is left for future work.

Table 3: Estimated changes in overall distribution of jobs among adult population before and after war

Job	*Prewar %*	*Postwar %*	*Difference in %*
Farming	73%	65%	-8%
Fishing	>1%	1%	>1%
Non-farm manual	9%	8%	-1%
Small commerce	5%	7%	2%
Taxi/chauffeur	1%	2%	1%
Teacher	2%	4%	2%
Civil servant	1%	1%	0%
Other professional	2%	4%	2%
Army	2%	5%	3%
Police	1%	1%	0%
None	3%	2%	-1%
	100%	100%	

Table 4: Employment distributions for civilian and ex-combatant adults in sample

	Civilian		*Ex-combatant*		*Excom-Civ difference*
Job	*Frequency*	*Column Percent*	*Frequency*	*Column Percent*	*Column Percent*
Farmer	84	69%	58	44%	**-25%**
Fisherman	1	1%	0	0%	-1%
Non-farm manual	10	8%	4	3%	-5%
Small commerce	9	7%	27	20%	**13%**
Taxi/chauffeur	2	2%	8	6%	4%
Teacher	5	4%	3	2%	-2%
Civil servant	1	1%	1	1%	0%
Other professional	5	4%	1	1%	-3%
Student	3	2%	7	5%	3%
None	2	2%	24	18%	**16%**
Total	*122*	*100%*	*133*	*100%*	

Table 5: Median and mean incomes across ex-combatant and civilian sub-samples (FBU/month)

	Ex-combatants		*Civilians*	
Subsample	*Median*	*Mean*	*Median*	*Mean*
Whole sample	15500	25475	5000	16061
Farmers excluded	20000	30517	22500	32250
Zero income excluded	20000	31055	10000	22017
Farmers and zero income excluded	30000	37000	30000	37941

Table 6: Income among Hutu ex-combatants and civilians (OLS)

	Outcome			
Explanatory variables	ln(income)	ln(income)	ln(income)	ln(income)
Ex-combatant	0.298	0.337	0.248	0.269
	[0.160]*	[0.236]	[0.158]	[0.235]
Female	-0.381	-0.659	-0.64	-1.563
	[0.315]	[0.554]	[0.386]	[0.607]**
Farmer	-0.688		-0.568	
	[0.157]***		[0.214]**	
Current education (years)	0.063	0.059	0.079	0.058
	[0.027]**	[0.034]	[0.033]*	[0.033]
Constant	9.498	9.535	9.4	9.691
	[0.212]***	[0.277]***	[0.258]***	[0.285]***
Farmers in sample	Y	N	Y	N
Sample probability-weighted	N	N	Y	Y
Robust standard errors	Y	Y	N	N
Observations	121	57	121	57
R-squared	0.27	0.14	0.31	0.48
Standard errors in brackets				
sig. at 10%; ** sig. at 5%; * sig. at 1%*				

Table 7: Surviving family & income among ex-combatant & civilian farmers (OLS)

	Outcome							
	All farmers		*Excom. farmers*	*Civ. farmers*	*All farmers*		*Excom. farmers*	*Civ. Farmers*
Explanatory variables	ln(income)	ln(income)	ln(income)	ln(income)	ln(income)	ln(income)	ln(income)	ln(income)
Family members surviving	0.085	0.14	0.055	0.142	0.081	0.114	0.068	0.115
	[0.044]*	[0.068]**	[0.046]	[0.071]*	[0.045]*	[0.082]	[0.049]	[0.088]
Current education (years)					0.134	0.122	0.087	0.121
					[0.041]***	[0.047]**	[0.078]	[0.049]**
Female					-0.255	-0.034	-0.294	-0.028
					[0.258]	[0.330]	[0.162]*	[0.346]
Constant	8.562	7.924	9.125	7.906	8.047	7.676	8.571	7.662
	[0.326]***	[0.482]***	[0.364]***	[0.497]***	[0.405]***	[0.661]***	[0.602]***	[0.700]***
Sample probability-weighted	N	Y	N	N	N	Y	N	N
Robust SEs	Y	N	Y	Y	Y	N	Y	Y
Observations	75	75	33	42	75	75	33	42
R-squared	0.04	0.08	0.03	0.09	0.23	0.22	0.09	0.22
Standard errors in brackets.								
Sig. at 10%; ** Sig. at 5%; * Sig. at 1%*								

Political reintegration

The pilot survey was only able to scratch the surface in examining political reintegration. The reasons for this have to do mostly with time and resource limitations.[34] Thus, much of the work on this topic remains for the forthcoming survey. We did record whether or not subjects participated in the 2005 national elections. The results show that nearly all ex-combatants, like civilians, reported that they voted (about 93% and 92% respectively). Both groups differ from current security forces, for whom 77% reported voting. Non-voting both among current security forces and ex-combatants is attributable largely, although not entirely, to higher levels of non-voting by FAB/ex-FAB members (13 out of 21 non-voters in current security forces were ex-FAB, and 8 out of 9 non-voters among ex-combatants were ex-FAB, both Tutsi and Hutu).

Estimating "program effects" and the challenges of selection

As discussed at the outset, a second goal of our research on reintegration is to examine the measurable effects of formal reintegration programs. The aim is to identify "program effects," and to determine whether they correspond to program goals. Humphreys and Weinstein (2005) have attempted this type of study in Sierra Leone, concluding that measurable effects of reintegration program are hard to come by, if they exist at all.

For a number of reasons, the study of program effects is complicated in a post-conflict context like in Burundi. An important reason is "self-selection bias," which affects many attempts to study the effects of programs that are not randomly assigned to subjects. Self-selection bias emerges when individuals decide whether or not to participate in a program based on their expectations of the results of the program. However, in the ex-combatant reintegration context, self-selection bias is complicated by the fact that the incentives for program participation are great. Such programs tend to include substantial cash allowances, meals, and access to training and networks that are aimed at easing the assumption of a new livelihood. Thus, we should expect a very small portion of ex-combatants to forgo such benefits. Indeed in Burundi, our sample included only 8 out of 123 ex-combatants that reported not participating in the reintegration program. Given how unusual it would be to forgo program benefits, it is likely that this proportion is close to the true population proportion. Oversampling such non-participants is an enormous challenge. Most ex-combatants are identifiable to outsiders only via their participation in the reintegration program. It may be possible to trace networks to attempt to identify non-participant ex-combatants, but their rarity would make this an extremely costly exercise. Thus, as far as we know, there is no reliable means through which we could plan to oversample non-participant ex-combatants. Even if we did, the self-selection issues minimize their usefulness as a control group. Given the incentives that are being refused by non-participants, it is quite likely that they differ from participants in important ways.

One route to overcoming self-selection bias is to work with program implementers to randomly assign programs to different members of the ex-combatants population. In some cases this may be feasible, and randomization has become a more regular feature of development programs in recent years. But with respect to reintegration programming, such is not always the case. Political sensitivities often surround the design and implementation of such programs, associated as they are with security matters. Such is clearly the case in Burundi, although we are currently exploring the possibility of randomization in information provision and job training or job placement programs.

[34] Survey question batteries dealing with political expression and attitudes toward democratic institutions are well-developed. Thus, the research team decided not to allocate precious space in the survey to batteries of questions that had already been tested and proven in other comparable settings (e.g. in Sierra Leone and Liberia). The plan is to include such batteries in the forthcoming survey.

Other than randomization, program effects can be isolated by exploiting other randomly-determined factors associated with the way programs are implemented and taken-up by ex-combatants. For example, the distance between an ex-combatants home and reintegration program centers may correspond with the regularity of program participation, and may thus be used to isolate the effects of participation regularity on reintegration outcomes. Another example is that the quality of the program may vary across implementing partners (typically local NGOs) or over time, in which case the effects of program quality on reintegration outcomes can be identified.

Our pilot study in Burundi did not focus on measuring reintegration program effects, although we plan to try to do so in our further research. In addition to the difficulties outlined above, the 2006 pilot was conducted at a time when the reintegration program was only just beginning. Ex-combatants had been registered for program benefits and received "reinsertion" stipends, but vocational training programs had yet to start. Thus, it was likely too early to genuinely assess program effects.

Conclusion

This section has outlined our approach for evaluating reintegration outcomes among ex-combatants in Burundi, and has presented some suggestive descriptive results from a 2006 pilot survey. The pilot study has helped to pin down fruitful areas for our further survey work. With respect to identifying key determinants of reintegration outcomes, these priorities include (i) operationalizing our study of the effects of community attitudes on reintegration outcomes, (ii) identifying more adequate measures of material well-being among farmers, (iii) examining the causes and economic consequences of migration and relocation among ex-combatants, (iv) disentangling the effects of family attrition on welfare particularly among farmers, (v) clarifying the effects of trauma on economic reintegration, and (vi) implementing our planned survey of attitudes toward democratic institutions. With respect to program evaluation, the pilot study has made it clear that an overall assessment of program effects may not be possible in the Burundi context, but that within-program variation would be a more fruitful avenue to explore in attempting to measure program effects. Given this constraint, either a randomization of sub-programs or the exploitation of mostly random variation in already-planned program implementation would allow for identification of these effects.

Appendices

Figure 1: Map of ONUB deployment as of August 2004

Figure 2: Map of ONUB deployment as of November 2004

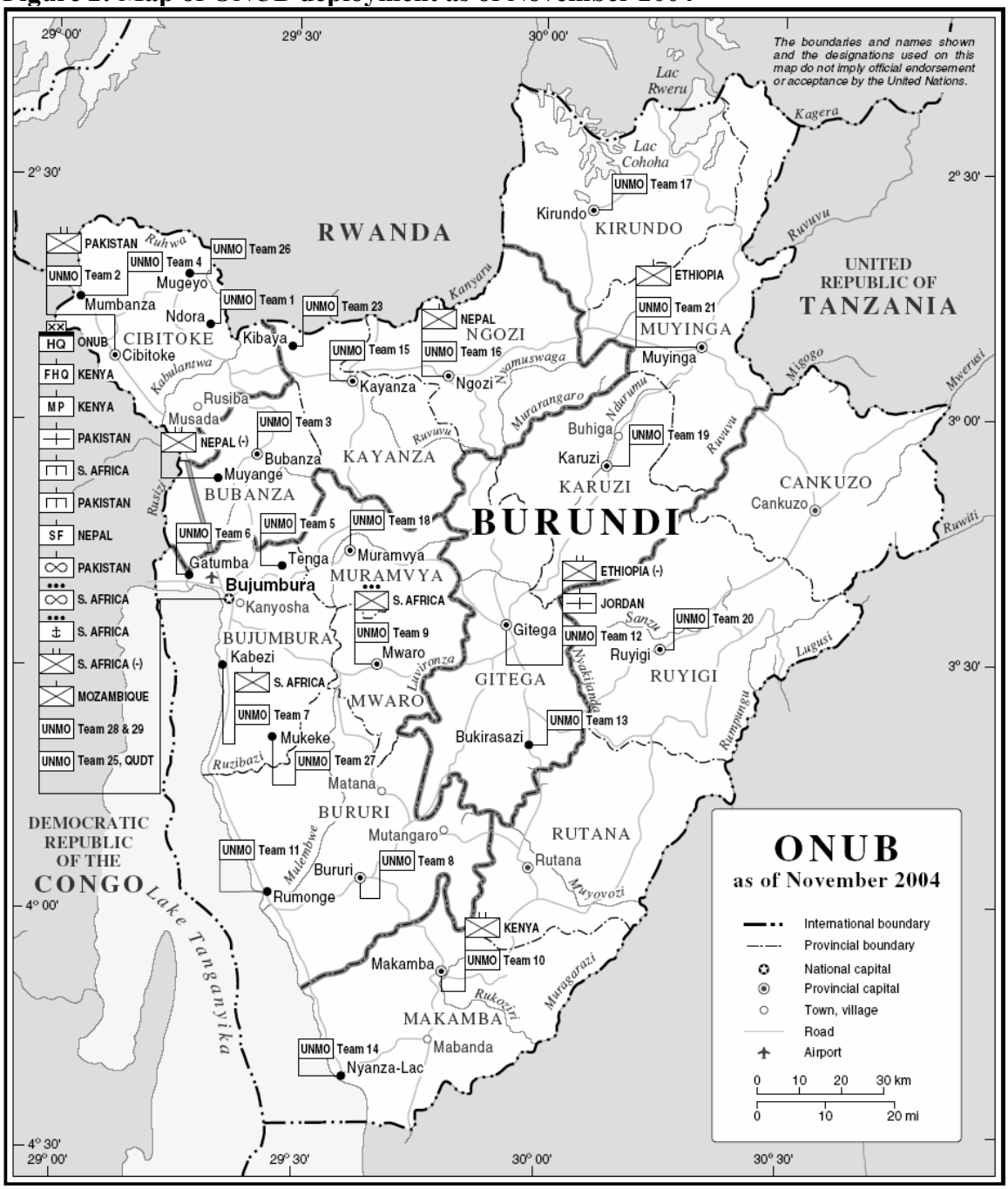


Figure 3: Map of ONUB deployment as of May 2005

Figure 4: Map of ONUB deployment as of November 2005