

# Testing the Double-Genocide Thesis for Central and Southern Rwanda

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Results of a research project with household-level data on the demographic impact of genocide and civil war in Rwanda are reported. The survey includes demographic and criminological data on 352 peasant households that were part of a large household survey project before the genocide. The absolute number of Hutu killed in the sample is half of the number of Tutsi killed. The statistical and econometric results show that the killing pattern among Hutu and Tutsi was different; Tutsi members of the same household were often killed on the same day and in the same place. The effect of the arrival of the Rwandan Patriotic Front (RPF) at the survey sites on the survival chances of Hutu and Tutsi is estimated.

*Keywords:* genocide; civil war; survey research; Rwanda

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**E**mpirical research at the household level of the transition process from civil war and genocide to (relative) peace in Rwanda is very scarce. As a result, several important questions regarding Rwanda are heavily disputed by scholars. One of the most controversial topics in modern Rwandan history is whether more than one genocide occurred in Rwanda before, during, or after 1994. Reyntjens (1996, 240-51), for example, writes that the Rwandan Patriotic Front (RPF) killed tens of thousands, maybe hundreds of thousands of Rwandans before, during, and after 1994. Des Forges (1999, 692-735) suggests that the killings by the RPF were more selective, mainly targeting educated or politically active Hutu. She too acknowledges that the RPF killed tens of thousands of people. One step beyond this is the claim that the RPF also committed genocide. In fact, the thesis is of a triple genocide, adding the massacres in the Kivu as another genocide committed by the Rwandan Patriotic Army (former RPF).

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The lack of empirical research has everything to do with the great number of difficulties that one faces when undertaking this journey. To name just a few obstacles that have to be tackled: many people are traumatized by the events, people distrust one another, ethnicity is not used in official parlance but is omnipresent in daily life, the struggle for life encourages the search for short-term gain and corruption, the ongoing war in the Congo cuts short any political opening of debate, more than 100,000 people (many without file or charges) are in prison, and so on.

Despite these difficulties, this study presents demographic findings about the transition of rural households from a period of civil war and genocide to a situation of relative peace. Findings are based on intensive household survey research. The study is the result of 8 months of field research in Rwanda over a period of 2 years. It will enable us to test the double-genocide thesis empirically for parts of the country. Because fieldwork was not conducted in the Kivu provinces of the Congo, empirical work on the massacres in Kivu is not presented.

With good data, one can, for example, analyze the impact of the RPF in surveyed communities and distinguish it from the impact of the forces that committed the genocide of Tutsi and moderate Hutu in these same communities. What is needed for this is a detailed data set with the dates, places, ethnic affiliation of the victims, and identity of the killer(s). This is, among other things, what this empirical study offers. The data allow us, for example, to observe whether the RPF made as many victims among Rwanda's (mostly) Hutu population as the genocide made among its (mostly) Tutsi population. The data also allow us to test statistically whether the arrival of the RPF saved lives or caused more deaths among Hutu and Tutsi.

Because of budget limitations and the design of the research project, this study is a limited test of the double-genocide thesis—specifically, of the prefectures of Gitarama, Gikongoro, and Kibuye. Advocates of the thesis may argue that it is not a true test of the double-genocide thesis because most of killings by the RPF occurred in Byumba, Kibungo, and rural Kigali. This criticism is partially correct. Therefore, I state at the beginning that the test is a partial one, namely, for parts of Rwanda (the three above-mentioned prefectures) and not for the entire country. It should be noted, however, that testimonies about killings organized by the RPF exist for several parts of Rwanda.<sup>1</sup> It is hoped that the advocates of the double-genocide thesis appreciate the empirical methodology and acknowledge its findings.

Before presenting the results of the fieldwork, we need to discuss the definition of *genocide*. First, the internationally accepted legal definition is set out in a United Nations Convention in 1948. Article 2 in the convention defines genocide as “acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group.” The most important element in this definition is that it can be used—and is currently used—in national and international penal tribunals. Scholars, however, have singled out a number of problems with this definition. These problems are appar-

1. An example of this is Byumba town. During one of my visits to Rwanda in September 2000, a very knowledgeable person informed me that during the third week of April 1994 — around April 17 to 19 — a large number, maybe several thousand, unarmed civilian Hutu men were killed by the Rwandan Patriotic Front (RPF) in Byumba town. When I asked my informant for the motivation behind this massacre, he said that revenge most likely motivated these killings - revenge for ongoing killings in the capital, Kigali.

ent when we study large-scale massacres that do not seem to correspond to a complete or full genocide. Researchers then have the choice of limiting their use of the word *genocide* to the very few cases in which there is absolutely no doubt that this word applies (e.g., the Nazi genocide of Jews) or broadening its use to cover large-scale massacres and take the risk of losing the power of the word. One can indeed argue that the term has this power when it is used to define just those events (such as the holocaust) that seem different from other large-scale massacres. This question also touches the core of the Rwandan situation. Very few scholars doubt the correctness of the application of the term *genocide* in its legal and broader meaning (in social science research) to the slaughter that occurred in Rwanda between April and June 1994. However, very few scholars will use the word *genocide* to describe the killings committed by the RPF before, during, and after 1994.

The purpose is not to have a legal discussion of the definition of genocide here; other authors have much more expertise to do that. I cannot avoid such a discussion, however, for two reasons. First, the advocates of the double- or triple-genocide thesis do use the word *genocide* and thus invoke the legal implications of its use.<sup>2</sup> Second, when I want to distinguish between a “complete” or “full” genocide, on one hand, and one or more massacres, on the other hand, I need a set of criteria that allow me to make a such distinction.

The question in the literature is whether the events that occurred in Rwanda between April and June 1994 are so exceptional that they merit description by a term not used to describe other kinds of killings. This is exactly where the main contribution of the study can be situated. I present empirical material to find out whether the killings committed by the Hutu power regime between April and June 1994 had a different character from the killings committed by the RPF in Rwanda before, during, and after 1994. Which term, then, is considered to be appropriate in its legal or broader social science meaning is open for debate.

### **THE TRACING METHODOLOGY OF THE GENOCIDE TRANSITION SURVEY**

To research the fate of the members of Rwandan households in transition from civil war and genocide to a situation of relative peace, it was necessary to find and collect data at the household level. These data had to be unbiased; that is, whatever information on households one could find (e.g., income, household composition, location, farm size, etc.) should be collected independently of the behavior of household members during the genocide. This condition is not satisfied, for example, when one researches a sample of perpetrators or a sample of prisoners. Therefore, I decided to

2. See Desouter (1995, 2002). Desouter, who was president of the White Fathers Missionary Society between 1993 and 1994, writes, for example, that “the Interahamwe are a militia that has pushed young people to protect themselves in a moment of crisis and war” (Desouter 1995, 5). Furthermore, he states “that it is a lie that the old regime had planned the genocide of the Tutsis” (p. 5). He also says that “from the start it was a double genocide, whereby from 1990 to 1995 both Hutu and Tutsi were killed” (p. 5). Desouter and Reyntjens (1995) also documented crimes committed by the RPF.

trace the rural households that were interviewed by Dan Clay from Michigan State University and the Department of Agricultural Statistics (DSA) before the genocide. Clay had interviewed 1,248 rural households from 1989 to 1992 in all Rwandan prefectures. He collected detailed data on the demographic, economic, and agricultural situation of farm households. This database is a unique source to study the livelihood of Rwandan peasants before the genocide. The research strategy would give the researcher data on the fate of rural households during and after the genocide, based on a pregenocide sample of rural households.

Clay had all household survey data computerized but could not provide a list of the location and the names of the surveyed households. Because the former regime and its allies had to evacuate Kigali in a hurry and did not have time to destroy their archives (they destroyed or stole the computers), I believed I had a small chance of finding the old surveys. Searching the archives in the ministries of agriculture, economic planning, and their respective statistics departments did not result in a list of the households. However, in August 1999, under a layer of dust in one of the archives, I finally found the original questionnaires with the location and the names of the heads of households mentioned on the first page. I found the references of 73% of the original surveyed households in that archive. From the 10 prefectures, 7 were nearly complete and 3 were nearly completely missing.

For reasons of budget limitations, however, I could not survey all 1,248 households. Survey research in general and in Rwanda in particular is very expensive and time-consuming. In addition, a genocide transition survey is not free from security concerns. The genocide took place in 1994 but persists in Rwandan society today. In the summer of 2000, I decided to examine three prefectures totaling 352 households surveyed by Professor Clay. The prefectures chosen were Gitarama, Kibuye, and Gikongoro, with 160 households (10 clusters) in the first and 96 households (6 clusters) in the second and third prefectures. These prefectures were chosen for a variety of reasons. First, I had the information necessary to locate the households in these prefectures. Second, these areas were safer to work in compared to Ruhengeri or Gisenyi. Third, Imidugudu policy (villagization) had been implemented to a lesser degree in these prefectures than in Kibungo and rural Kigali, leaving more hope of finding the households at the same locations as before the war. Fourth, the prefectures had a mix of very "successful" genocide (Gikongoro and Kibuye) and less successful genocide (Gitarama). Fifth, the prefectures had had a sizable Tutsi population before the war. (This, however, only distinguishes them from the northern prefectures.) Sixth, the prefectures encompass both very poor and not so poor communes.

I had designed the questionnaires for the Genocide Transition Survey and had decided to proceed in two phases. A team of collaborators, selected at the National University of Rwanda in Butare (one for each commune, the equivalent of one for each cluster of 16 households), was to attempt to find the households in the indicated sectors. In the first stage, the collaborators were not to conduct a detailed questionnaire but to note only a limited amount of information. I wanted first to know whether we were able to trace the households in their original dwellings. The information to be collected in this first stage included the following:

- Can we locate at least one member of the household surveyed in 1989-1992?
- Are the head of household and his wife alive or dead?
- What is the ethnic group of the head of household and his wife?
- How many members does the household have in 2000?
- To what gross category does the head of household belong? Is he or she a survivor of the genocide, in prison, or abroad?
- What is the age of the head of household in 2000?

The collaborators were told to approach the households in a prudent manner, taking time to explain that the research was for scientific purposes only and that we were not part of the Rwandan judiciary, the International Tribunal, or the government. In fact, if collaborators believed that households were not approachable, they could gather the information for this first stage of the project by talking to neighbors or government authorities. Because tracing of households requires extensive knowledge of the area of residence, I decided to work with collaborators from the communes. However, because this kind of work is potentially dangerous, I also decided not to take collaborators from the sector where the households were located but from a different sector within the commune. This would at least give a minimum guarantee of security, save transportation costs, and make local knowledge of the area of residence available to the researcher. Relying on earlier tracing done in Indonesia by Duncan, Frankenberg, and Smith (1998), I decided to choose collaborators with a good knowledge of mathematics. Because the survey is a quantitative research project, collaborators with a good grasp of mathematics would be helpful not only in the tracing stage of the project (as they had been in Indonesia) but also in the actual filling out of the questionnaires.

After interviews to select collaborators, the following characteristics determined my choice:

- a good grasp of mathematics (in practice, this came down to having a university degree);
- having resided in the commune where the interviews take place before and during the genocide;
- minimum age of 21;
- previous experience in survey research, especially interviewing;
- able and willing to undertake survey research on the genocide;
- whether the candidate-enumerator was on good terms with both the Tutsi and the Hutu population of his or her commune of origin.

For the first stage of the project, a 1-day training session was organized. Collaborators were told not to be satisfied with one source of information but to cross-check their information with members of either ethnic group. In the end, I employed 22 collaborators, one for each cluster of 16 households. Eighteen collaborators had a university degree or were about to finish their university studies. Four collaborators had taken teacher training during their high school studies and were currently teaching in primary schools. Of the collaborators, 8 were female and 14 were male. Collaborators came from both ethnic groups, and all originated from the communes where the survey was to be held.

The advantage of a tracing exercise is that the researcher has information on the households that is not available to the collaborators. The 1989-1992 database gave me a very good instrument to make sure that collaborators found the intended households. In addition to the data on the households, the researcher had another way of controlling the tracking done by the collaborators. During the 1989-1992 agricultural survey, the households were given a solid basket as a kind of reward for their cooperation with the survey. The collaborators were told to ask whether the household had received this item and if they still had it. After the first stage, the information supplied by the collaborators was checked with the database, and the researcher was able to criticize unfinished work. Collaborators were also informed that they would have an opportunity to correct information sheets when they returned to the households for the second stage of the project.

The 352 households in the prefectures of Gitarama, Kibuye, and Gikongoro that were interviewed by Clay and the DSA have more than 1,900 household members. In the first stage of the project, we managed to find information on 340 of these households and on 1,800 persons included in the 1989-1992 survey. This success may be attributed to the preparation of the tracing exercise and the constant presence in the field of the researcher, but it is also due to the organization of Rwandan society. Communal authorities have a detailed and well-organized record of all the inhabitants in each sector and cell. They carefully register every birth, death, or migration in or out of the commune. The success of the tracing exercise was also due to Rwandan culture: people on the hills know each other and know of each other's whereabouts. Even when a person is not present on the hill, neighbors have information about where he can be found. Having found information about 1,800 of the 1,900 original people in the survey does not mean that they were all present in their original dwellings, as will be documented in the tables.

### **DESCRIPTIVE STATISTICS FROM THE GENOCIDE TRANSITION SURVEY**

During the Genocide Transition Survey (GTS), all survey sites included in the 1989-1992 survey in the three above-mentioned prefectures were revisited. The locations of the 10 clusters in Gitarama prefecture and the 6 clusters in the two other prefectures are listed in Table 1.

During the GTS, we found information on 340 of the 352 original households: 155 in Gitarama, 96 in Gikongoro, and 89 in Kibuye. Twenty-seven households had a Tutsi head of the household. These households, on average, owned less land, had less cattle, and—in terms of adult equivalents—had the same gross income as Hutu households.<sup>3</sup>

Table 4 gives an overview of the findings of the Genocide Transition Survey (GTS). We include 1,926 household members alive in March 1994. From these 1,926, we have registered the ethnicity in 1,795 cases. Of the household members for whom we were

3. A more detailed study of the economic situation of Hutu and Tutsi households can be found in Verwimp (2003).

TABLE 1  
Survey Sites of the Genocide Transition Survey

<i>Gitarama</i>		<i>Gikongoro</i>		<i>Kibuye</i>	
<i>Commune</i>	<i>Sector</i>	<i>Commune</i>	<i>Sector</i>	<i>Commune</i>	<i>Sector</i>
Nyamabuye	Mbuye	Musange	Kigoma	Mabanza	Mukura
Ntongwe	Gitovu	Rwamiko	Gorwe	Kivumu	Sanza
Mugina	Mbati	Nyamagabe	Kibilizi	Rutsiro	Muhira
Tambwe	Ntenyo	Nyamagabe	Kamegeli	Gitesi	Buye
Musambira	Gihembe	Muko	Bitandara	Gisovu	Gitabura
Runda	Ruyenzi	Kinyamakara	Nyarusange	Bwakira	Nyabinombe
Taba	Ngamba				
Nyakabanda	Kagogwe				
Masango	Munanira				
Murama	Runyangando				

TABLE 2  
Descriptive Data by Prefecture (*n* = 340)

	<i>Gitarama</i>	<i>Gikongoro</i>	<i>Kibuye</i>
Number of households in Genocide Transition Survey	155	96	89
With Hutu head of household	133	90	81
With Tutsi head of household	17	5	5
With Twa head of household	5	0	0
With ethnicity unknown	0	1	3

NOTE: For 12 households, no information at all could be found during the Genocide Transition Survey.

TABLE 3  
Overview of Economic Characteristics by Ethnic Group (Averages)

	<i>All Households</i> ( <i>n</i> = 329)	<i>Hutu</i> ( <i>n</i> = 287)	<i>Tutsi</i> ( <i>n</i> = 25)	<i>Twa</i> ( <i>n</i> = 4)
Land owned (are <sup>a</sup> )	90.8	93.2	75.4	12.4
Land rented (are <sup>a</sup> )	7.1	7.5	4.0	0
Value of livestock (in RwF <sup>b</sup> )	9,388	9,418	7,393	6,300
Gross <i>Y</i> per household	41,480	41,865	46,931	12,189
Household size	5.2	5.1	5.3	
Gross <i>Y</i> per adult eq.	9,622	9,804	9,893	2,664
% Never went to school	56.7	57.3	32.0	100.0
Live births to mother	4.69	5	4	9
Live births still living	3.95	4	3	8

NOTE: Not all pre- and postgenocide information was complete for all households.

a. 100 are = 1 hectare.

b. RwF = Rwandan francs.

TABLE 4  
The Population Evolution from March 1994 to 2000,  
Calculated from the Genocide Transition Survey ( $n = 1,926$ )

	<i>Hutu</i>		<i>Tutsi</i>		<i>Twa</i>	
	n	%	n	%	n	%
Number alive March 1994 = 1,926; missing data in 2000 = 131 <sup>a</sup>						
Ethnicity registered	1,620	100	151	100	24	100
Number alive in 2000	1,344	82.9	62	41.0	13	54.1
Fate unknown in 2000	111	6.8	0	0	5	20.8
Dead by 2000	165	10.1	89	58.9	6	25.0
Death						
Dead by 2000	165	100	89	100	6	100
Died in 1994	45	27.2	79	88.7	4	66.6
Died 1995-2000	73	44.2	4	4.4	1	16.6
Year of death unknown	47	28.4	6	6.7	1	16.6
Cause of death (year known and unknown)						
Cause of death unknown	10		0		0	
Number of natural deaths	112		10		5	
Number of violent deaths <sup>b</sup>	43	100	79	100	1	100
Killed by Interahamwe	9	20.9	67	84.8		
Killed by FAR	1		6	7.5		
Killed by RPF	21	48.8				
Killed by other	5	11.6				
Killer unknown	7	16.2	6	7.5	1	

NOTE: FAR = Rwandan armed forces; RPF = Rwandan Patriotic Front.

a. Missing indicates that for a number of household members of the 1989-1992 survey, no information could be obtained, meaning that neither were they present in their original dwellings, nor could we register any information from informants or neighbors on these individuals.

b. Death in Congo, Burundi, or Tanzania was registered as violent death unless the person interviewed stated that the death was not directly related with war. Granted, this is very difficult to say for Congo, but from the 112 deaths of Hutu registered as "natural deaths," only 4 were located in Congo.

able to register their ethnicity, 90% are Hutu, 8.4% are Tutsi, and 1.6% are Twa. Of the Tutsi in the sample, only 41% survived the genocide and the postgenocide period until 2000 (the moment of the GTS) compared with 83% of the Hutu and 54% of the Twa (both violent as well as natural deaths). Some readers familiar with the death toll of Tutsi during the genocide may find a survival percentage of 41% quite high. There is a growing consensus in the research community that only about 20% to 25% of all Tutsi residing in Rwanda at the time of the genocide survived (Des Forges 1999, 15). We will soon discuss why the survival percentage of Tutsi in our sample is higher. Seventy-nine (out of 89) Tutsi, meaning 88.7% of the deceased Tutsi, were killed in 1994, compared with 45 (out of 165) Hutu, meaning 27% of the deceased Hutu.<sup>4</sup> Almost all Tutsi who had died by the time of the survey were killed in the genocide. We registered only

4. This may be an underestimation because we do not have the year of death of 28% for the deceased Hutu.



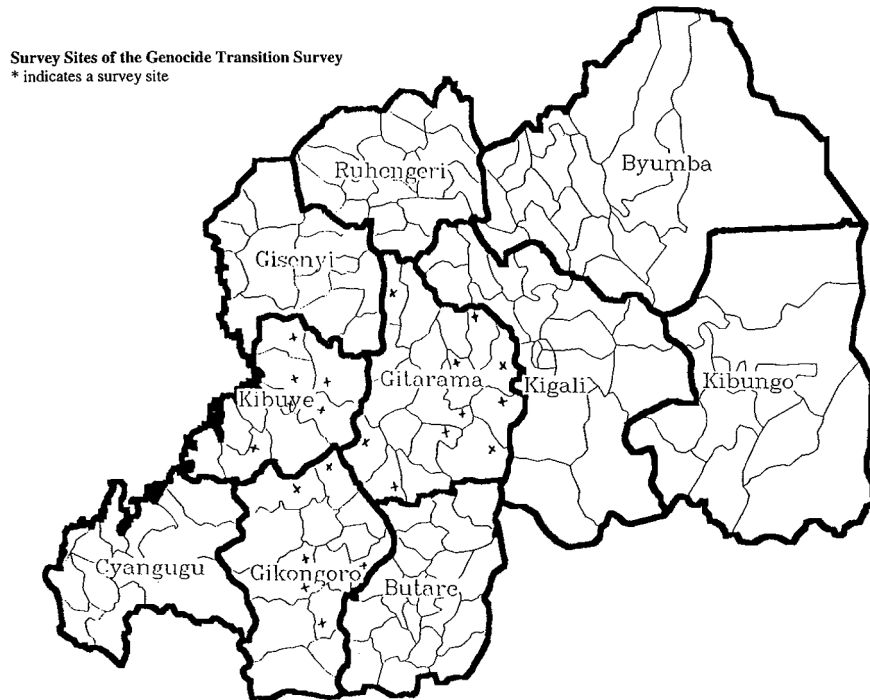


Figure 1: Survey Sites of the Genocide Transition Survey

4 Tutsi killed in the period from 1995 to 2000. Of all violent deaths of Tutsi, 85% were caused by execution by Interahamwe and 7.5% by soldiers of the Rwandan armed forces (FAR). The majority of violent deaths of Hutu (48%) were caused by execution by the RPF.<sup>5</sup>

Of the registered violent deaths of Hutu, 21% had been executed by the Interahamwe. Although we reached a very high level of attrition (93.2%, 1,795 of 1,926) in our survey, we do not know whether a number of Hutu were still alive in 2000 because of their flight to the Congo (or how they had been killed). This means that in our sample, about 52% (79 of 151) of all Tutsi residing at the survey sites in March 1994 were killed in the weeks after April 6, 1994. The genocide of the Tutsi population has thus clearly left its traces in our sample. Another element of the mass slaughter campaign, traceable in our sample as well, is the killing of Hutu by the Interahamwe and the FAR, who account for 10 out of 43 registered violent deaths among Hutu. Thus, the 1994 genocide has also claimed 0.6% (10 of 1,620) of the lives of the Hutu in our sample. Furthermore, the RPF claimed (Hutu) lives, 21 to be exact, almost half of all violent deaths of Hutu, equaling 1.3% of the Hutu population residing in the survey sites.

5. The term *interahamwe* is used as a general description for civilians taking part in attacks and killings, not strictly for Mouvement Republicain National pour le Développement (MRND) youth or organized militia.

TABLE 5  
 Losses of Household Members per Household  
 Because of Genocide or Civil War (Natural Death Excluded)

% of Households	<i>Hutu</i>		<i>Tutsi</i>		<i>Twa</i>		<i>Total</i>
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	
With information on all household members	208		24		3	100	235
No losses of members	191	91.8	2	8.3	3	100	196
One member lost	12	5.8	7	29.2	0	0	19
More than one member lost	5	2.4	7	29.2	0	0	12
All members lost	0	0	8	33.3	0	0	8
With information missing on one member <sup>a</sup>	39		0		0		39
No losses of members	35		0		0		35
One member lost	3		0		0		3
More than one member lost	1		0		0		1
All members lost	0		0		0		0
With information missing on two members <sup>a</sup>	23		2		0		25
No losses of members	22		1		0		23
One member lost	1		0		0		1
More than one member lost	0		1		0		1
All members lost	0		0		0		0
With information missing on > two members <sup>a,b</sup>	17		0		2		19
No losses of members	15		0		1		16
One member lost	1		0		1		2
More than one member lost	1		0		0		1
All members lost	0		0		0		0

a. Data include only the members on whom we found information.

b. For 8 Hutu households (not included in the 17), data on all members are missing; for 7 other households, all data, even on ethnic affiliation, are missing. Elsewhere, it is explained that despite these missing values, an attrition rate of 93% on an individual and household level is very good for a panel survey, especially when we have taken the period of 10 years in between two rounds into account, a period ravaged by genocide and civil war.

Table 5 presents data at the household level. It is shown that only 2 out of 27 Tutsi households did not lose one or more members due to violent death in genocide or civil war. This accounts for 7.5% of all Tutsi households and for 8.3% of Tutsi households with no information missing. In comparison, 191 out of 295 Hutu households did not lose any member because of genocide or civil war. This accounts for 64.7% of all Hutu households and for 91.8% of Hutu households with no information missing. It is important that we failed to register data on the status of life or death of one or more members in 87 (39 + 23 + 17 + 8) Hutu households. This is a large number, but it does not mean that the data we found on the other members of these households are incorrect. In effect, 72 out of these 87 households (83%) reported having not lost a member in violent death (missing persons were excluded). Adding this 72 to the 191 households mentioned above reveals that 89% of all Hutu households reported not having lost a member who died violently. Of course, the necessary reservations for the missing members in these 72 households must be taken into account.

A large majority of the Tutsi in our sample, 67% to be exact, originated from the prefecture of Gitarama. Forty-three of the 104 Tutsi from Gitarama were killed in the genocide, 3 died after the genocide, and the fate of 6 Tutsi from Gitarama was not registered in the GTS. This means that almost half of the Tutsi, who were alive in March 1994 and living in Gitarama, survived the genocide. This, in effect, explains the relatively high overall survival percentage in our sample. The other prefectures show a totally different picture. Of the 28 Tutsi in our sample who we know were living in Gikongoro in March 1994, only 3 were still alive in 2000. The 25 others were killed in the genocide. This is a survival percentage of only 10.7%. The data for Gitarama confirm other research, particularly the seminal account of the genocide by Alison Des Forges (1999), that the genocide in Gitarama was less intense (at least in the number of Tutsi killed) compared with other prefectures. Des Forges writes that

the combined pressure by political and military authorities, militia, and the radio succeeded in destroying open opposition to the interim government and its genocidal program in Gitarama. But the killing campaign failed to exterminate all the Tutsi of the region, in part because Hutu officials and ordinary people continued to aid Tutsi, even if only furtively, and in part because the rapid assemblage of thousands of Tutsi at Kabgayi created an agglomeration protected by its sheer size. From the start many Tutsi had fled spontaneously to the extensive grounds of the Catholic diocese at Kabgayi. Governmental authorities also encouraged and helped Tutsi to assemble there, some of them believing that people at risk were safer at Kabgayi than in their home communes, others because they understood that gathering Tutsi together was part of the genocidal plan. Military and militia never launched an open assault on the extensive camps, but were preparing to do so when the RPF took Kabgayi in early June. (P. 277)

An interesting feature of the GTS is that our findings demonstrate this difference: from a random sample of households surveyed in the framework of an agricultural research project before the genocide, we have found that Tutsi members of the surveyed households had a far better chance to survive the genocide when they were living in the prefecture of Gitarama than in Gikongoro. Interestingly, the situation is reversed for Hutu. Hutu living in Gikongoro had a higher chance not to be killed in the genocide or civil war than Hutu living in Gitarama. The latter finding can be explained by the absence of battles between the RPF and the FAR in Gikongoro, which, in turn, is explained by the refusal of the French army to allow the RPF to enter Gikongoro during Operation Turquoise. The survey features only Twa in Gitarama who had the lowest chance to be killed in either the genocide or the civil war.

The data presented in Table 6 seem to suggest that the early arrival of the RPF had a double consequence: some Tutsi were saved, and some Hutu were killed. The regression analysis will check whether this observation can be substantiated.<sup>6</sup>

6. For a detailed description of massacres committed by the RPF in the prefecture of Gitarama, I refer to Ndahayo (2000, 111-23). Ndahayo is from Gitarama and served as the executive secretary of the Movement Democratique Republicain (MDR) in 1994 and 1995. He finds that the RPF killed 18,000 people in Gitarama prefecture. This represents 2.2% of a total Hutu population (800,000) in Gitarama at the time of the genocide. Compared to my own estimates, based on the sample of rural households in Gitarama, Ndahayo's estimate seems realistic.

TABLE 6  
Percentage Killed, by Ethnic group and Prefecture ( $n = 1,795$ )

	% Killed in Genocide and Civil War <sup>a</sup>		
	<i>Gitarama</i>	<i>Gikongoro</i>	<i>Kibuye</i>
Hutu	4.4	0.6	1.6
Tutsi	45.1	89.2	47.8
Twa	3.8		
Average number of days after April 6, 1994, before Rwandan Patriotic Front arrived at the survey sites (commune level) <sup>b</sup>	65	215	105

NOTE: When translating (extrapolating) these figures to the national level, one has to take into account that (1) because of the early arrival of the Rwandan Patriotic Front (RPF) in Gitarama, more Tutsi survived in Gitarama compared to Butare, the prefecture with the largest Tutsi population in Rwanda. Nationwide, a larger percentage of the Tutsi was killed than in our sample. (2) Most probably, more Hutu were killed by the RPF in Gitarama (and in Kigali, Kibungo, Byumba) compared to the southern prefectures of Gikongoro, Butare, Cuyangugu, and Kibuye because of the civil war effect (battle), revenge killings, and arbitrary executions by the RPF. (3) Figures for violent death among Hutu are underreported because of missing data due to flight of a number of Hutu to the Congo.

a. These figures are the number of violent deaths per ethnic group per prefecture. The figures for Hutu are underreported because the fate of a number of Hutu was unknown. This number, however, is such that it does not change the overall picture of differences between ethnic groups and between prefectures. Hutu killed in the Congo, when registered, are included among the dead. The fact that the fate of a number of Hutu is unknown (compared to Tutsi) is mostly due to their flight to neighboring countries.

b. Averages over 10 communes in the prefecture of Gitarama and over 6 communes in the two other prefectures.

### ETHNIC DATA AND THE DOUBLE-GENOCIDE THESIS

To distinguish the killings committed by the Interahamwe and FAR, on one hand, and by the RPF, on the other hand, I will analyze the mortality pattern of the Hutu and Tutsi in my sample. Who was killed by whom? Where did the killings take place? When did they take place? Were whole families killed at the same time in the same place? Were the killings linked to a particular event? What was the identity of the killer and of the victim?

From the household-level data, it is clear that 1 out of 3 Tutsi households in the pregenocide sample lost all of their household members in 1994. Almost the same percentage of Tutsi households lost more than one (but not all) of its members. Of these households (taken together, they account for 15 out of 25 of Tutsi households with data on all members), 11 lost their members on the same day. They were exterminated that day (see Table 7).

In comparison, none of the 191 Hutu households with data on all members lost all of its members. Taking households with data missing on some of their members into account, we find that 24 households (8.1% of 295) lost one or more of its members violently. From these descriptive data at the household level, we thus observe a clear ethnic pattern—namely, that many (in our sample 15 out of 25 households) Tutsi residing

TABLE 7  
 Number and Percentage of Households of Which at Least Two  
 Members Were Killed on the Same Day and at the Same Place

<i>Ethnic Affiliation of the Head of Household</i>	<i>Number</i>	<i>Total</i>	<i>%</i>
Hutu	5	304	1.6
Tutsi	15	27	55.0
Twa	2	5	40.0

in Rwanda were killed with their family members, most often on the same day. Although the number of Hutu killed in our sample is high in absolute numbers (43, compared with 79 Tutsi), the large majority of Hutu in our sample (more than 90%) were not killed in the first place. Old age and disease also took their tolls. When murdered, most Hutu killed in the sample were found to be the only casualty in the household. Rarely were members of Hutu households killed on the same day and in the same place. From the data, it is difficult not to conclude that the patterns of killing were different for Tutsi and Hutu.

Whatever one's position on the double-genocide thesis (i.e., that both the former regime and the RPF committed genocide), our research in Gikongoro, Gitarama, and Kibuye shows that many people were killed, both Tutsi and Hutu, but the killing pattern in the period between 1994 and 2000 was clearly different for both groups. Simply stated, we physically found and located more than 82% (1,344 out of 1,620) of the members of the Hutu households included in the 1989-1992 agricultural household sample. Of the remaining 17% (276 members), 111 were missing (i.e., their fate is unknown) and 165 were dead. Of these deaths, 112 people were reported to have died a natural death. Regarding the 131 missing (whose ethnicity and living or death status are unknown), it should be pointed out that even panel surveys without the advent of war, large-scale massacres, or mass migration lose households and household members in subsequent rounds of the survey because of individual migration, job search in the city, marriage in another village, and so on. Given Rwanda's recent history, our attrition rate (93%) is very, very high. One may argue that some of these "natural" deaths were, in fact, killed by the RPF. (I have no proof of this, but I am ready to accept some false testimonies.) The number killed by the RPF cannot be that large, however, because, in the course of almost 10 years between the surveys, at least some Hutu in this sample must have died from disease (malaria, AIDS) or old age.

### THE SPATIAL DISTRIBUTION OF KILLING

In this section, I examine the places where Hutu and Tutsi were killed in relation to the places where the murdered person was residing before the genocide. In this way, we

TABLE 8  
Comparing the Pattern of Killing of Hutu and Tutsi in the Sample

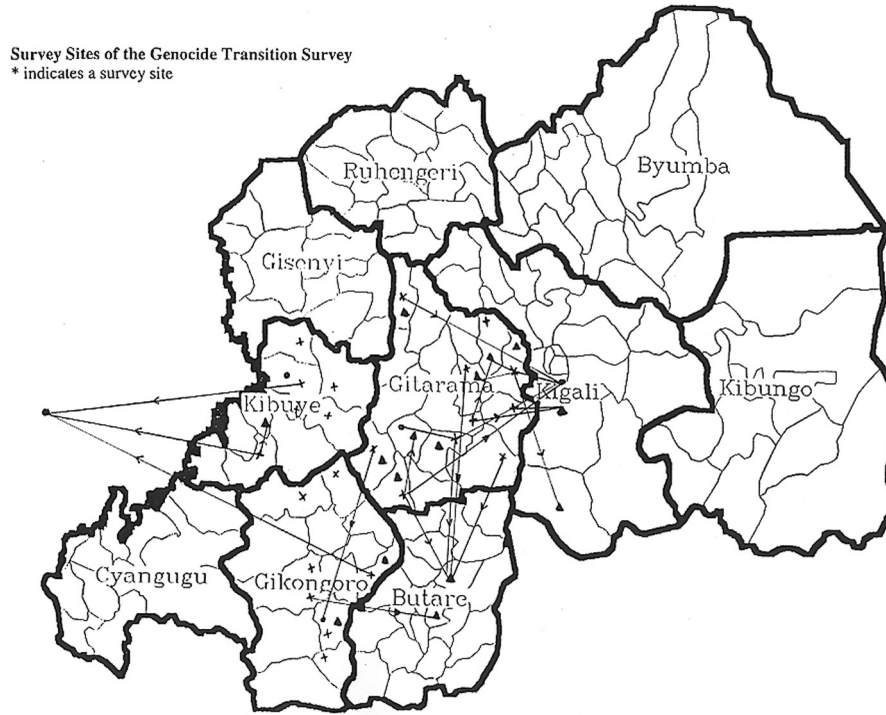
	<i>Tutsi</i>	<i>Hutu</i>
Number of observations	155	1,620
Number killed	79	43
Percentage killed	52	2
Time frame of killing	1994	1994, 1995-1998
Identity of killers	Interahamwe FAR	RPF Interahamwe-FAR
Places	Area of residence, neighboring communes, church of Kibeho, Kigali	Congo, camp of Kibeho, Mukingi, Kigali
Overall pattern	Household members often killed on the same day and at the same place	Households often have no member killed, one member killed, or one or more members lost in Congo

NOTE: RPF = Rwandan Patriotic Front. FAR = Rwandan armed forces.

can trace the spatial distribution of the killing process during the genocide and the civil war.

When one or more members from the survey site were killed outside the commune of residence, a line is drawn on the map between the survey site and a small triangle or a small circle (see Figure 2). A triangle indicates Tutsi deaths, and a circle indicates Hutu deaths. No line was drawn when members of the sample died in their own commune. Take Masango commune in Gitarama prefecture (bordering Kibuye and Gikongoro prefectures), for example: Tutsi members from Masango commune included in the sample were killed in the commune. This is symbolized by the small triangle without a line linking the cross and the triangle. Hutu members from the sample in Masango were killed in the Kibeho camp, in the commune of Rwamiko, Gikongoro prefecture. This is symbolized by the line drawn between the cross indicating the survey site and the small circle in Rwamiko commune indicating the death of Hutu.

Both Hutu and Tutsi were killed inside as well as outside their communes of origin, but more Tutsi than Hutu included in the sample died in their own communes. Fourteen Tutsi from the survey site in Rwamiko commune, for example, were killed in the church of Kibeho. Tutsi from the survey sites who were killed outside their communes of origin mostly died in Butare prefecture. We also found that 5 Tutsi were thrown into the Nyabarongo River. Hutu included in our sample mostly died in Kigali, in a neighboring commune, or in the Congo. To recapitulate, places where Tutsi in our sample were killed include the church of Kibeho, in Kigali, at the place of residence, and in the Nyabarongo River. They all died in 1994. Places where Hutu in our sample were killed include Mukingi (1994), in the camp of Kibeho (1995), in Congo (1996), and in their place of residence (1997).



**Figure 2: The Spatial Pattern of Killing**

NOTE: \*indicates a survey site. Lines indicate when one or more members from the survey site were killed outside the commune of residence. Triangles denote Tutsi deaths; circles denote Hutu deaths.

## ANALYSIS OF SURVIVAL CHANCES

In an analysis of survival chances, I want to identify the determinants of a person's probability of surviving the genocide and the civil war. Econometrically, this is done by the use of a logistical regression technique in which the variable at the left-hand side of the equation is a dummy variable capturing the death (1) or life (0) status.

Formally,

$$\text{Prob}(y = 1) = L(\sum_k \beta_k x_k),$$

with  $x_k$  = personal, household, and local characteristics.

The right-hand side features a number of personal, household, and local variables that explain the life or death status of the individual. One must make a distinction between a "natural" and a "violent" cause of death. Therefore, I first perform a regression using a binary method and, in the next section, a multinomial regression technique.

Explanatory variables include the following:

*At the personal level*

Age and age square of the individual

Sex of the individual (male = 0, female = 1)

Ethnic affiliation of the individual (Hutu = 0, Tutsi = 1)

Income the individual earned outside the family farm, in logarithmic terms

*At the household level*

Area of land owned by the household, in acres

*At the level of the commune*

Number of days after April 6, 1994, that the RPF reached the survey site

An interaction term between the ethnic variable and the RPF-arrival variable

A constant term

The regressions show that age, sex, and ethnicity strongly determined a person's chances of dying violently in Rwanda during the past decade in all three regressions. In the first regression, in which the dependent variable takes the value of 1 in the event of both a natural and a violent death, the ethnic effect is significant at the 12% level. The significance of the ethnic effect increases strongly in the other two regressions, in which the dependent variable is equal to 1 only in cases of violent death. It is thus clear that Rwandan Tutsi in our sample were killed because of their ethnic affiliation. The regressions also show that women had a better chance of survival than men. The computations of the marginal effects of the variables in the third regression show that sex and ethnicity have the most impact on one's probability of violent death in Rwanda, with the latter effect three times stronger than the first.

The earning of an off-farm income has no significant effect in any of the three regressions. Members of households who owned large land properties, however, had a higher chance of dying violently during the last decade of Rwanda's turbulent history. This means that, apart from ethnicity, other regularities can be observed in the killing process.

The number of days between the shooting down of Habyarimana's plane on April 6, 1994, and the arrival of the RPF on the survey site also has a significant effect. The more days between these dates, the lower one's chances for violent death. This civil war effect, however, is in its turn corrected for when it is interacted with the ethnic variable. The sooner the RPF arrived at the survey site, the fewer Tutsi were killed (the lower the chance of Tutsi to be killed). The marginal effect shows that the probability of Hutu to die violently after the arrival of the RPF decreased by 1% for each month after April 6, 1994. The probability for Tutsi to die violently increased by 2% for each month after April 6, 1994, and when the RPF arrived at the survey site.<sup>7</sup> From the size of the marginal effects, it can be derived that the "Tutsi-saving" effect of the arrival of the RPF at the survey site was two times larger than the "Hutu-killing" effect of that arrival.

I have already mentioned that fewer Hutu died in Gikongoro than in Gitarama because of the late arrival of the RPF in Gikongoro. They were not allowed in by the French Operation Turquoise. Econometrically, it is not easy to account for Operation

7. This is, as far as I know, the first time that the effect of the arrival of the RPF on the survival chances of both Hutu and Tutsi is demonstrated in a regression analysis.



TABLE 9  
Bivariate Logistical Regression Results Explaining Violent Deaths, 1994-2000

Variables	Alive = 0/Natural or Violent Death = 1	Alive or Natural Death = 0/Violent Death = 1	Alive = 0/ Violent Death = 1	Marginal Effect
	Coefficient	Coefficient	Coefficient	
AGE	0.031** (2.15)	0.059** (2.46)	0.0561** (2.27)	0.0012
AGE <sup>2</sup>	0.0008 (0.47)	-0.004 (-1.44)	-0.0003 (-1.00)	
SEX	-0.485*** (-2.78)	-0.932*** (-3.37)	-0.926*** (-3.32)	-0.0208
ETHNIC	0.699* (1.56)	1.426** (2.46)	1.5004*** (2.57)	0.0611
OFF-FARM Y	-0.037 (-1.10)	-0.026 (-0.50)	-0.033 (-0.63)	
LAND OWNED	-0.001 (-1.11)	0.0036** (2.29)	0.0035** (2.18)	-0.000
Number of days after April 6 before RPF reached site	-0.006*** (-3.92)	-0.014*** (-3.31)	-0.014*** (-3.37)	-0.0003
ETHNIC × Number of Days after April 6	0.022*** (4.51)	0.031*** (4.70)	0.030*** (4.58)	0.0006
Constant	-2.15*** (-7.28)	-3.452*** (-6.38)	-3.349*** (-6.16)	
Number	1,539	1,539	1,429	
Log likelihood	-491.26	-225.65	-218.14	
Pseudo-R <sup>2</sup>	0.226	0.437	0.444	

NOTE: Values are coefficients, *z* values in parentheses. RPF = Rwandan Patriotic Front. Marginal effects only computed for significant variables.

\**p* < .12. \*\**p* < .05. \*\*\**p* < .01.

Turquoise. The data for the arrival of the RPF are specific for each survey site, and they vary for the Gikongoro sites from 139 days (after April 6, 1994) to 270 days. The French arrived in Gikongoro about 85 days after April 6, 1994.<sup>8</sup> One way to capture an effect for Gikongoro that is not observed in Gitarama (and in Kibuye)<sup>9</sup> is to use a dummy variable for Gikongoro. It is, however, not sure if this procedure really corresponds to reality, meaning that the French army was really occupying (and thus stopping the killing) soon after their arrival over the whole area of our survey sites. A dummy can also capture other effects for Gikongoro that we are not aware of. Nevertheless, to test the robustness of our analysis, we have introduced a dummy for

8. We cannot replace the dates the RPF arrived at the Gikongoro sites by 85 because then we would no longer distinguish between the effect of the French arrival at Gikongoro sites and the RPF arrival at Gitarama sites.

9. The problem of the arrival of the French versus the arrival of the RPF in Kibuye prefecture in terms of days after April 6, 1994, is very small because it almost coincided.

Gikongoro. It had no significant effect and did not change the effects of the other variables. We can conclude this section saying that the French army saved a number of Hutu lives in Gikongoro by delaying the entry of the RPF in that prefecture, at the cost of a number of Tutsi lives.<sup>10</sup>

This analysis shows that the probability of a Hutu being killed by the RPF was higher in 1994 compared with 1995, 1996, or later. What kind of killings were these? Were they revenge killings—revenge in the sense that the RPF killed Interahamwe because the members of that militia killed Tutsi in the days, weeks, or months before the arrival of the RPF? Did the RPF just kill Hutu citizens at random upon their arrival in a survey site? Were RPF killings related to a prior attack?

In our data, we have found that of the 43 Hutu who were killed violently, 21 were killed by the RPF. Of these 21 Hutu, 10 were killed in 1994; 3 of these 10 victims of RPF bullets in 1994 were known as Interahamwe in their cells of residence. They participated actively in the genocide. The other 7 killings cannot be linked with the activities of the victim during the genocide. Two out of 21 were killed in the massacre of the Kibeho refugee camp in 1995, and 5 were killed in 1997 after an infiltration attack by former FAR and Interahamwe in northern Rwanda. In two Hutu households, we have found members killed by the RPF on the same day and in the same place. Apart from the first 3 persons killed in 1994, none of the other victims were known as Interahamwe.

From our fieldwork in Gitarama, Gikongoro, and Kibuye, we conclude that half of the RPF killings cannot be linked to a particular event; a number of RPF killings in these prefectures can be categorized as revenge killings; a number of RPF killings in the sample can be attributed to the massacre in the Kibeho refugee camp (Gikongoro prefecture); and a relatively large number of killings in north Gitarama can be regarded as terror and harm inflicted on the civilian Hutu population after an insurgency by former FAR and Interahamwe.<sup>11</sup>

The results of the multinomial regression in Table 10, in which the dependent variable is not a binary choice variable, strengthen the effects already observed in the binary case. They show again that age, sex, and ethnicity have a significant effect on the probability of dying violently. The effect of the land variable in this multinomial regression takes away the ambiguity of land in the binary regression. Landlords indeed have a higher chance of dying violently and a lower chance of dying naturally compared with less landed people. As before, the number of days after April 6, 1994, that the RPF arrived at the survey sites is also very significant, as is the interaction between this variable and the ethnic variable in the explanation of violent death. The later the RPF arrived at the survey sites, the lower one's probability of dying violently, unless if one were a Tutsi. The effect of the RPF arrival on the probability of dying from a natural cause is somewhat puzzling. The arrival of the RPF at the survey site apparently increased one's probability of dying from disease or illness (natural death). This may

10. This does not mean that the French did not save Tutsi in Gikongoro. Within the limits of our data (96 households, of which 5 were Tutsi households), we do not observe such an effect.

11. We found evidence that in the northern part of Kibuye and Gitarama prefectures (we did not do field research in Gisenyi or Ruhengeri), a small number of young people, who were not part of the Interahamwe during the genocide, joined Interahamwe and ex-FAR (Rwandan armed forces) in 1997 and 1998 when these forces mounted an insurgency in northern Rwanda.

TABLE 10  
Selection into Natural or Violent Death: A Multinomial Logit Regression

Variables	Violent Death		Natural Death	
	Coefficient	z Value	Coefficient	z Value
AGE	0.0054***	2.24	0.0231	1.32
AGE <sup>2</sup>	-0.00003	-0.97	0.0002	1.02
SEX	-0.9353***	-3.37	-0.244	-1.13
ETHNIC	1.4294**	2.45	2.6471	1.26
OFF-FARM Y	-0.0286	-0.55	-0.0376	-0.88
LAND OWNED	0.003**	2.08	-0.003***	-2.60
Number of days after April 6 before RPF reached site	-.014***	-3.41	-0.0046***	-2.76
ETHNIC × Number of Days after April 6	.033***	4.65	-0.0572	-1.33
Constant	-3.279***	-6.07	-2.419***	-6.81

NOTE: Number of observations = 1,539. Log likelihood = -569.59. Pseudo- $R^2$  = 0.278. Dependent variable = status: alive, violent death, or natural death. RPF = Rwandan Patriotic Front.  
\*\* $p < .05$ . \*\*\* $p < .01$ .

have to do with the problem of getting medical treatment during civil war or with the decline of living standards during civil war. In that respect, it is important to note that humanitarian aid organizations complained vigorously during the genocide about the RPF refusal to allow them to deliver aid or assist the needy.

## CONCLUSION

In a survey in the prefectures of Gitarama, Gikongoro, and Kibuye, evidence was found of killings of Hutu and Tutsi by Interahamwe, FAR, and RPF. One out of 3 Tutsi households in the pregenocide sample had all its members exterminated in 1994, very often on the same day and in the same place by the same people. Only 2 of the 27 Tutsi households (8.3%) reported no members lost during the genocide. This genocidal pattern is not found in the killings of Hutu household members. From the Hutu households with full information on all members, 91% reported not to have lost members who died violently. Even when a number of false testimonies and missing information on members of Hutu households who stayed or died in Congo are accepted, the pattern of killing of Hutu and Tutsi was clearly different. In effect, we have traced and found, in a material and physical sense, a large majority of Hutu households from the pregenocide sample, including wives and children. This is not the case for most members of Tutsi households. We therefore argue that for those prefectures in which we performed our fieldwork, the term *genocide* should be reserved for the killings committed by the Interahamwe and the FAR, and another word should be used for the killings committed by the RPF. That word could be *massacre* or *terror* or another word, depending on the event.

Using regression analysis, it was found that age, sex, ethnic affiliation, the size of one's land, and the number of days it took the RPF to reach the survey site determined one's chance for survival. Older people, men, Tutsi, and land-rich people had a higher probability of dying violently compared with young people, women, Hutu, or land-poor people. More Tutsi survived the genocide and more Hutu died violently the sooner after April 6, 1994, that the RPF reached the survey site.

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