# Grass-roots Justice in Tanzania

*Cultural evolution and game theory help to explain how a history of cooperation influences the success of social organizations*

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In a remote village of Tanzania one day in 1998, members of an ethnic group called the Sukuma gathered for a hearing on a social transgression. The local leader of this culture's justice organization—called the Sungusungu—had offered meat to a nonmember at an organizational feast. According to the group's rules, only Sungusungu members are allowed to eat meat at such events. Although this infraction might seem minor, it triggered a heated debate. Hundreds of Sungusungu members screamed that their leader was a thief. As punishment, the organization removed the leader from his position and fined him.

In Tanzania, as in many other countries, people expect corruption. For example, citizens consider the police dishonest and inefficient, but people rarely get angry enough to band together against this problem. In 1979, however, life in Tanzania grew worse than usual during a war with neighboring Uganda. Armed men entered Tanzania, and cattle rustling ensued. By the early 1980s, frequent raids on cattle—the most prized possession among the Sukuma—had prompted a more forceful collective response. The Sukuma created the Sungusungu to fight back. In Swahili, Sungusungu denotes a highly cooperative and aggressive type of ant; in the Sukuma language, it means poison. In less than a year, the highly cooperative and aggressive Sungusungu grew from a grass-roots venture in a few villages in northern Tanzania to a successful justice system replicated and enthusiastically embraced by Sukuma communities across the country—no small task in a country with few roads and a limited telecommunications infrastructure.

To some, the Sungusungu are vigilantes. Sungusungu groups have used harsh, mob-style justice, ranging from pursuing thieves with poison arrows to public executions of deviants. More than punishing cattle rustlers, however, the Sungusungu now deals with property crime, disputes concerning debts, adultery and witchcraft. Perhaps most intriguing, this hierarchically organized system of social control has been sustained by the Sukuma for nearly two decades. As a result, the Sungusungu has developed into something far more advanced than a vigilante squad.

A number of interesting anthropological questions arise from the success of the Sungusungu and the rapidity with which it took hold. For instance, how can a group of people create a national-level justice system in less than a year? In a country of more than 100 ethnic groups, why has the Sungusungu been successful only among the Sukuma? As we shall show, cultural evolutionary theory—a new variant of evolutionary biology—offers answers to these questions. This theory explains the success of the Sungusungu among the Sukuma, and it even offers deeper insights into the evolution of cooperation and the formation and maintenance of ethnic groups.

**The Start of the Sungusungu**

Originally, the Sukuma inhabited northern Tanzania. They raised maize, rice and other crops. In addition, they kept herds of cattle—sometimes thousands of them. Several characteristics distinguish this ethnic group. They often dress in clothing with gaudy patterns, which they adorn with distinctive jewelry and black capes. In addition, these farmer-pastoralists have always interacted extensively with one another through neighborhood organizations, dance societies and other groups that extend beyond the boundaries of villages, relatives and even chiefdoms. Perhaps most of all, Tanzanians know the Sukuma as an incredibly generous group. In fact, Sukuma mothers force their children to share food with others.

In the 1960s and '70s, the Sukuma started migrating to all areas of Tanzania. They have reached villages south of Katavi National Park in Rukwa, a frontier region near Lake Tanganyika and the border with Zambia. In this area, Sukuma farmer-herders live outside the villages of the indigenous ethnic group, the Pimbwe. The Pimbwe are small-scale farmers who supplement their diet with fish and wild



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**Figure 1. Sukuma in Tanzania, known for cooperation and hospitality as well as festive gatherings, develop social organizations that extend across chiefdoms. In 1981, the members of this ethnic group collaborated in forming a particularly well-organized and effective grass-roots justice organization called the Sungusungu. The Sungusungu began when a small number of people united to fight off cattle rustlers. In a few years, however, the Sungusungu expanded across much of Tanzania. Since then it has evolved to handle virtually any dispute—from adultery to disagreements over property ownership. The authors, whose field work included an "ultimatum game" exploring norms of cooperation, show how cultural evolutionary theory can explain much of the Sungusungu's success. (Except where noted, photographs courtesy of the authors.)**

game. In addition, Pimbwe social institutions promote social interaction and cooperation only within clans and villages.

In sum, Sukuma families have a reputation across Tanzania for exceptional hospitality and generosity. Visitors from their own and other ethnic groups are welcomed with lavish spreads of food. In contrast to the Sukuma, Pimbwe families are quite suspicious of others, living and eating in tightly bounded family groups and rarely opening their homes to people outside their family or clan.

In 1981, the Sukuma and Nyamwezi groups in northern Tanzania started the Sungusungu. The close ties between these two ethnic groups led them to often call the Sungusungu "an army of ancestors." At the village level, this justice organization consists of elected leaders, a secret council and organizational members. The secret council holds the highest position of authority among the Sungusungu. This group hears allegations of wrongdoing, determines guilt or innocence and determines and dispenses punishment. The *ntemi*—or chief—and the *mwenyekiti*—or chairman—make up the next level of authority. The chief uses knowledge of witchcraft to protect his soldiers. For instance, he can supposedly turn the bullets of thieves into water. The chairman leads public meetings. The organization of the Sungusungu includes many other positions, including a *katibu*—or secretary—who documents meetings and *asakri*—soldiers—who track down thieves, find witnesses for cases and aid people in distress.

After the Sukuma created Sungusungu organizations in the northern regions, they sent leaders to others parts of Tanzania, including Rukwa, to initiate other Sukuma into the new system. Sukuma villagers were informed about the rules and roles of the Sungusungu, asked to swear their loyalty and then given two options: Either join their village Sungusungu chapter and participate as an active member, or admit a deviant past and repay the village with cattle to—as the Sungusungu says—cleanse the crime. With few police and a rash of property crimes and disputes in Rukwa, most Sukuma saw the benefits of the Sungusungu.

Today, most if not all Sukuma claim membership in the organization and do so with great enthusiasm. The generally accepted strat-


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egy is that increasing the number of members reduces the potential number of troublemakers. As evidence of that at Sungusungu meetings, members often call out (in Kisukuma) *kwili basalama*, which means "that we multiply," and others respond *jilinde*, which means "that I be protected."

**Working from the Inside**

One of us (Paciotti) performed extensive field work in the Rukwa region, especially in two villages: Mirumba and Kibaoni. He started with three months of demographic work, all the while striving to gain the trust of the Sukuma and Pimbwe. Eventually, the Sungusungu in Mirumba invited Paciotti to be a formal member, complete with the title of councilman. His *mzungu* (European) status, however, didn't absolve him of any duties. He acted as an arbitrator in cases involving theft, adultery and petty crimes, including debts and slander. Working from the inside, Paciotti learned that a sophisticated system of substantive and procedural rules governs the Sungusungu. Moreover, he saw that hierarchically structured roles promote compliance, as in an army or business organization. The Sungusungu has organizational units at many levels, from village to region.

In addition to participation, the Sungusungu granted Paciotti access to the detailed case records kept by the organization. Like most Tanzanians, the Sukuma fear corruption. So they document all of their activities and constantly monitor their members for compliance. The records show that the Sungusungu achieve inter-village cooperation across great distances. For example, stolen cows are reported first to the village-level chapter. The village Sungusungu secretary then sends to all the nearby village written notes—complete with diagrams of the cattle brands—about the cows that were stolen. These villages then send letters to other villages. Paciotti saw letters from villages hundreds of miles away that were used to capture cattle thieves who passed through the study area.

Figure 2. Pimbwe, another ethnic group, live near the Sukuma in some parts of Tanzania. The Pimbwe traditionally have hunted their food, created few broad social groups and shared little beyond the family. By comparison, the Sukuma raise a few crops, including maize and rice, and herd cattle. The Pimbwe's attempt to start their own Sungusungu to fend off Sukuma cattle entering their fields failed for lack of participation.

In other cases, Sungusungu effectively ostracized rule violators by forbidding any Sungusungu members from interacting with them. For example, a Sukuma man who managed a small store in one village was found guilty of adultery. He delayed in paying his fine, and further violated Sungusungu rules by going to the police in hope of escaping the punishment. The Sungusungu wrote a letter to all nearby chapters that forbid any Sungusungu member from going to the fined man's store. Most of his customers were Sukuma, and most Sukuma are Sungusungu, so the store boycott proved effective. Within a few days, the man paid his fine, which was 30,000 shillings, or about 30 U.S. dollars. As these examples show, the Sungusungu is truly a justice system that entails large-scale cooperation.

In fact, the Sungusungu grew so large and powerful that the government of Tanzania deputized the group in 1989. Not surprisingly, the state officials first made some demands on the Sungusungu, including that Sungusungu members use only their traditional weapons (no guns), that they stop killing suspected witches and that they cooperate with local police. When the Sungusungu leaders agreed to those limitations, the group was loosely integrated into the formal justice system.

Still, the Sungusungu inspires controversy. Most criticism focuses on the use of violence in punishment. For example, anyone who is brought to the secret council and refuses to confess to his alleged crime gets turned over to the soldiers. They often take the suspect to a body of water, strip him of his shirt, cover him in mud and then paste straw reeds on his head. The suspect—still covered in mud and straw—then gets dunked in the water, and the phrase "to wash" is used in describing this ritual.

Enduring the mud, straw and dunking, though, does not absolve a suspect. To be accepted back in the community, he still must confess to the crime and say how much he is willing to pay in a fine, and all parties must agree on the accepted figure. This is not, however, a businesslike negotiation. All the while, young Sungusungu soldiers severely beat the suspect.

There are many other cases that end in death. In one case, a secret council accused—falsely, it turned out—a local man from the Fipa ethnic group of stealing cattle. The Fipa man had nothing to confess, and he was beaten until he eventually died. In another case, thieves from a distant village burned down the house of a Su-



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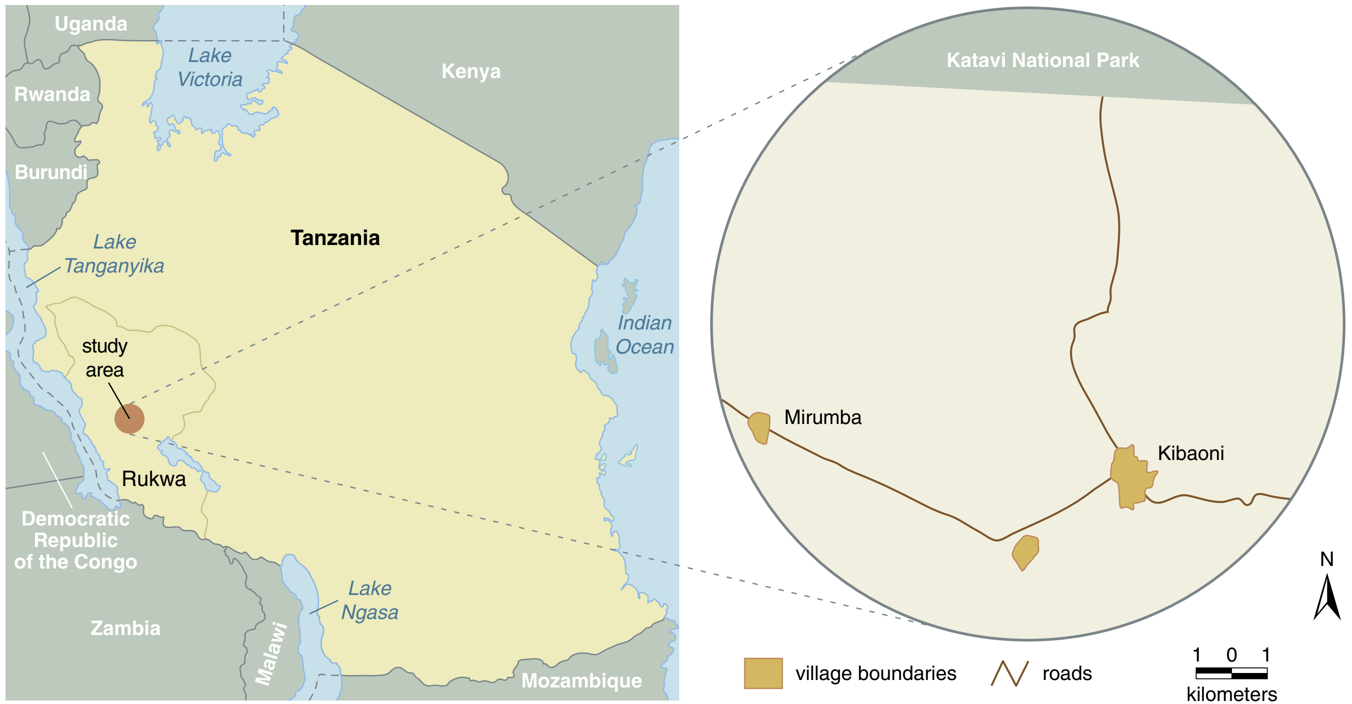


**Figure 3. Sukuma and Pimbwe now coexist in southwestern Tanzania in a region called Rukwa. The authors worked specifically with groups in two villages, Mirumba and Kibaoni.**

kuma family, and Sungusungu soldiers tracked down the accused arsonists and killed them.

### Analyzing an Ultimatum

Although the Sukuma's Sungusungu organizations were created in 1981, reached the Pimbwe area in 1982 and received national authorization by 1989, the Pimbwe hesitated to join. Finally, in 1997, the Pimbwe in Kibaoni started their own Sungusungu, because Sukuma cattle were entering Pimbwe fields and eating the corn. Even though the Pimbwe modeled their Sungusungu after the Sukuma organization, the Pimbwe's group soon failed. First, only 44 of 500 adult male Pimbwe joined the group in Kibaoni. Second, leaders in the region wanted just one Sungusungu—the Sukuma's. We wondered if we could quantify the social differences that might explain why the Sukuma succeeded in building a Sungusungu and the Pimbwe failed.

To test for differences in social behavior between the Sukuma and Pimbwe, we used an experimental technique called the ultimatum game, which was developed by experimental economists. This game starts with an amount of money, $x$, and involves two anonymous players: a proposer and a responder. The proposer offers the responder a portion of $x$ called $e$—as in $e$ for exchange. The responder may accept or reject the offer. If the responder accepts the offer, then the proposer keeps money equal to $(x - e)$, and the responder takes an amount of money equal to $e$. If the responder rejects $e$, on the other hand, both players leave with nothing. According to theories about rationality, the proposer should offer the smallest sum of money that the responder will accept, and the responder should take anything. Nonetheless, our qualitative knowledge of the Sukuma and Pimbwe cultures led us to expect differences between these groups in their degree of sharing.

We studied subjects from two villages, Mahenge and Kahamia. Half of the subjects from each ethnic group were randomly paired with an ethnic member from their own village, and

**Figure 4. Important decisions in the Sungusungu are made by a secret council. This group hears cases brought against alleged offenders and decides their innocence or guilt. The secret council also directs soldiers in the Sungusungu to dispense punishment. One common punishment includes covering a criminal's head with mud and straw reeds, and then dunking him in water to cleanse him of the crime. In some cases, the punishment includes a severe beating.**


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the other half were paired with an ethnic member from the other village. They played the ultimatum game with a sum of 1,000 Tanzanian shillings, which was about a day's wages at the time. In the within-village treatment, Sukuma respondents proposed a mean *e* of 610 shillings; in the between-villages treatment, they proposed 520 shillings. In other words, the Sukuma made hyperfair offers—more than half of the money. The Pimbwe respondents proposed significantly less—only 430 shillings on average in one within-village test and just 150 shillings in the between-villages test. Individual-level variables—age, sex, wealth and so on—accounted for very little of the variation. Ethnicity, on the other hand, explained much of the variation in the amount of money that a responder offered.

When individuals from these groups are faced with a novel and admittedly strange game, they do not play the same. A long history of cooperative institutions predisposes Sukuma to act in a highly cooperative and prosocial manner. As one Sukuma said, "It is disgraceful to act like a hyena and take too much." Apparently the Pimbwe take a different view.

Our results are consistent with recent studies by Joseph Henrich of Emory University and his colleagues. These investigators used a within-village version of the ultimatum game in a sample of 16 economically and geographically diverse societies. Like the Sukuma and Pimbwe, culturally distinct groups played the games in very different ways, and in almost no case did individual-level vari-

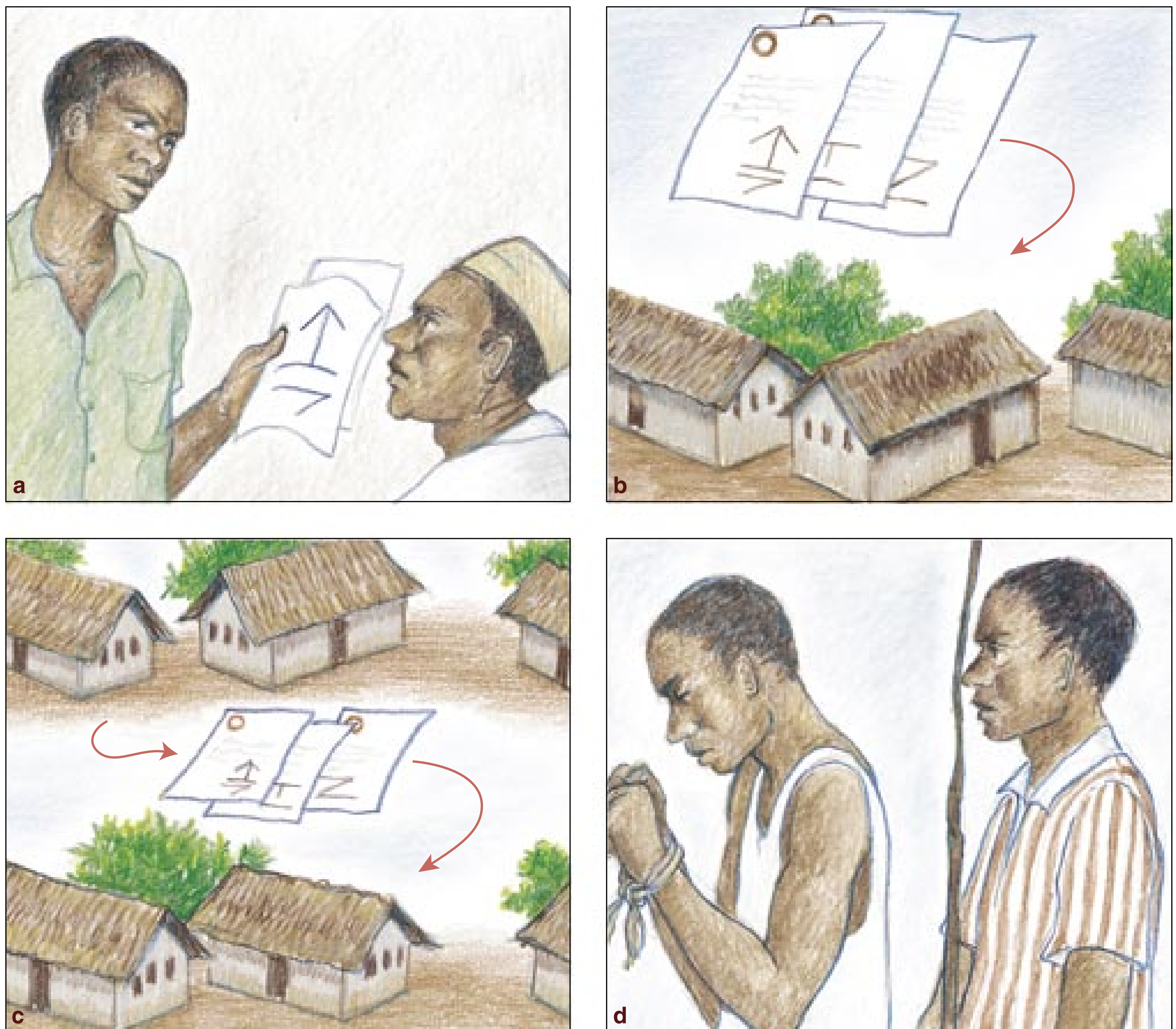


**Figure 5. Sungusungu can track cattle thieves across great distances. First, someone reports the stolen cattle to the village Sungusungu secretary *(a)*. The secretary writes a note that includes the seal of the local chapter, the brand from the stolen cattle and a few lines of text that describe the theft. That note goes to nearby villages *(b)*. Those villages send notes to other villages *(c)*. Using this grass-roots network, the Sungusungu has captured thieves *(d)* hundreds of miles from where the theft took place.**



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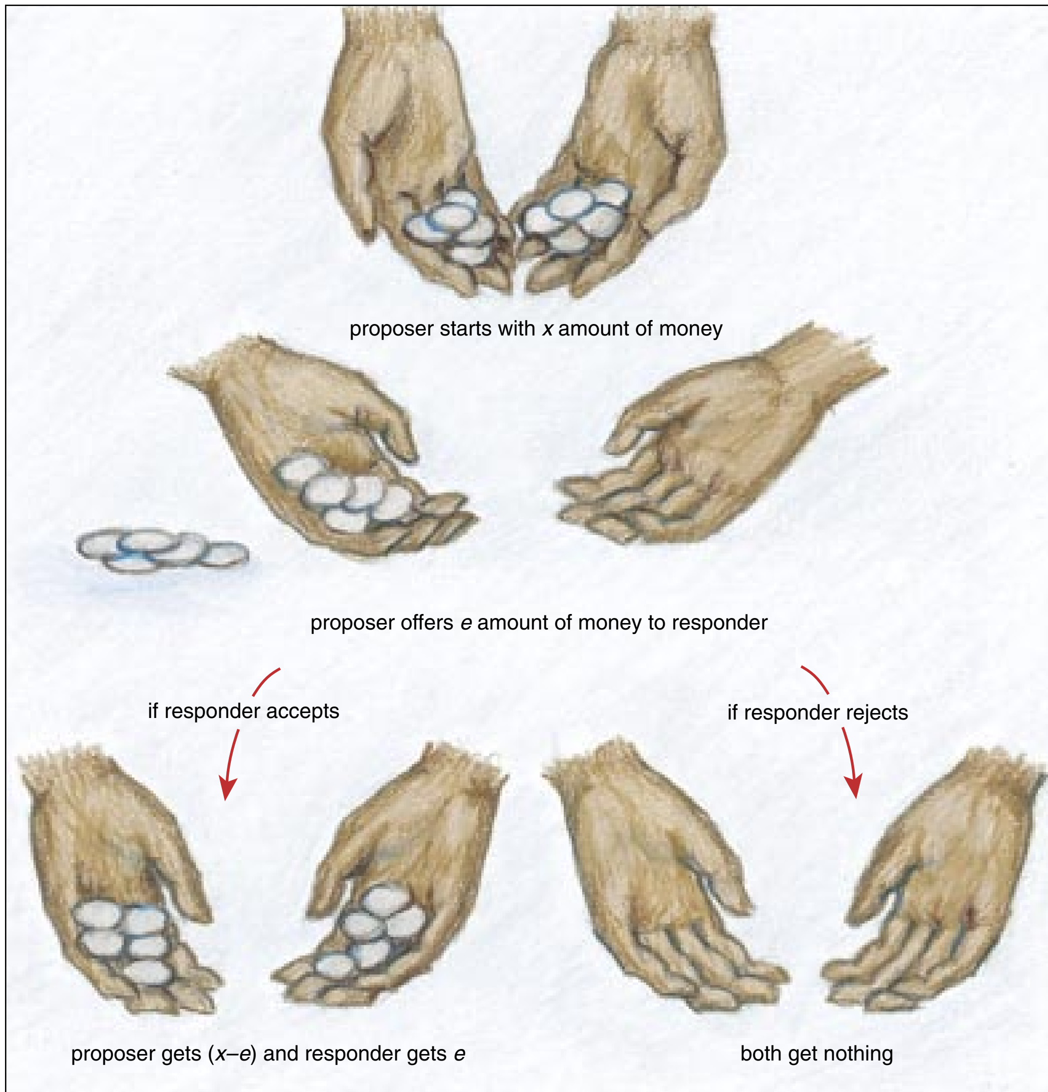


| Pimbwe | | Sukuma | |
|---|---|---|---|
| offer within village | offer between villages | offer within village | offfer between villages |
| 430 | 150 | 610 | 520 |

$x$=1,000 shillings

**Figure 6. Ultimatum game can test for social differences between ethnic groups. When the authors used this game, a proposer started with *x*, which was 1,000 Tanzanian shillings, or one day's wages *(top, a)*. The proposer offers a responder a portion of *x* called *e (b)*. If the responder accepts the offer, then the proposer keeps money equal to (*x*–*e*), and the responder takes an amount of money equal to *e (c)*. If the responder rejects *e*, both players leave with nothing *(d)*. When the Pimbwe played this game with people from their village, the proposer offered an average of 430 shillings to the responder. Offers averaged only 150 shillings when the responder came from another village. The Sukuma, on the other hand, offered 610 shillings to people from the same village and 520 shillings to responders from another village. These results support the Sukuma's reputation for generosity.**

ables predict game play. The Machiguenga in Peru offered responders only 26 percent of the money, which makes even the Pimbwe appear charitable. Overall, the Sukuma rank as the most generous players of this game in the published literature.

## Culture and Cooperation

Although the Sungusungu started only two decades ago, variants of this organization appeared long ago. In the early 1900s, for example, ethnographers were impressed with the Sukuma's institutional structures at the village and higher levels to protect property, resolve disputes and organize political events. The economic systems of other cultures might not require such teamwork. For instance, the Pimbwe hunting economy works at the local level and does not require large-scale cooperation. Consequently, few Pimbwe social institutions have emerged to


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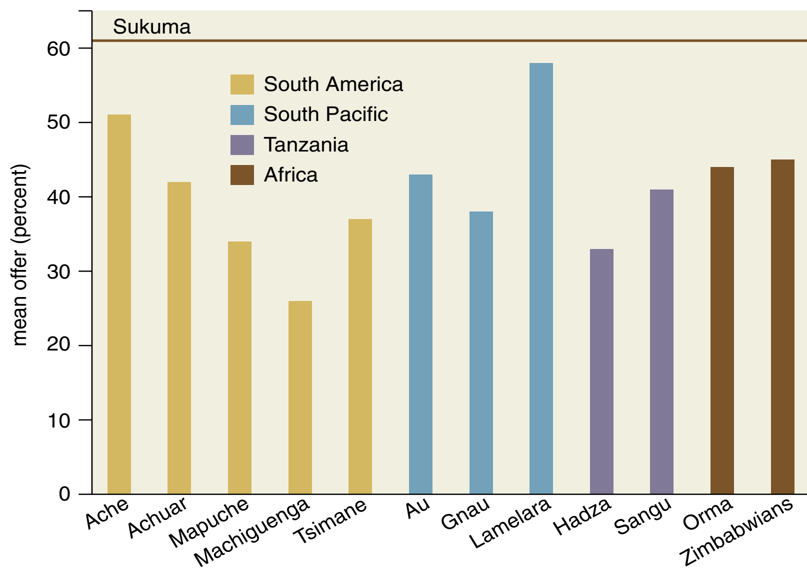


**Figure 7. Cross-cultural ultimatum games also reveal variation. Joseph Henrich of Emory University used the game to study a variety of societies from around the world. When people from these groups played the ultimatum game with other members of their village, none of them offered as much as the Sukuma *(brown line)*, who offered responders more than 60 percent of the money on average. Other groups in Tanzania offered responders only about 40 percent of the money. Some groups offered even less. The Machiguenga in Peru, for example, offered responders only 26 percent of the money. These data suggest that different societies (with different cultural rules) interact in different ways. The generosity among Sukuma might contribute to their ability to develop the Sungusungu.**

govern affairs of individuals beyond the scope of the clan or village. Another ethnic group—the Kuria from northern Tanzania—created a Sungusungu system; it failed because the organization favored traditional clan boundaries instead of promoting inter-clan cooperation.

**Figure 8. Environmental conservation is not one of the benefits of the Sungusungu. The Sukuma often migrate to find grassy pastures for their cattle. The expectation that there will always be new pastures contributes to environmental degradation and conflicts between immigrant Sukuma and indigenous populations. The authors hope that Sungusungu institutions can be transformed into a cooperative form of resource management.**

From studying a variety of ethnic groups and how they participate in the Sungusungu, we believe that cultural evolutionary theory explains which ones will succeed and which will fail. First, social learning of complicated innovations such as institutions is difficult. In many cases, some rules will be incompatible with pre-existing ones. Consequently, some groups struggle when trying to rapidly create institutional arrangements. Rather than creating something entirely new, groups usually modify their own pre-existing institutions. The Sukuma—unlike other ethnic groups in Tanzania—already had rules that promoted large-scale trust, and they could quickly invent a justice system when the need arose. Second, even though human populations involve a great deal of mixing, ethnicity often creates cultural boundaries that reduce the diffusion of innovations between groups.

Other work supports our conclusion. For example, Richard McElreath of the University of California, Davis, modeled how ethnic markers, such as attire, facilitate cooperation. McElreath concluded that ethnic markers allow individuals to interact with others who share similar social norms. His model's results are based on the idea that copying the behavior of a person from another environment might be maladaptive, and one's co-ethnics might make better models of behavior. This model predicts that ethnic markers should be more pronounced at boundary regions because of the greater amount of mixing between ethnic groups. Indeed, we suspect that migrant Sukuma populations are often more heavily marked with specific and gaudy ethnic identifiers than Sukuma from the homeland.

### A Sukuma Expansion

As mentioned earlier, the modern Sukuma tend to stay on the move. Starting in the 1960s—following environmental degradation of the traditional Sukuma homeland from cattle herding—many Sukuma began to take their herds to distant regions. The Sukuma can now be found in large numbers throughout Tanzania and provide an example of an ethnic group that is expanding both in absolute numbers and across place. What is it about the Sukuma that makes them so successful and explains their massive demographic expansion?

We favor a cultural explanation. First, one of us (Hadley) has conducted an intensive comparison of Sukuma and Pimbwe with respect to child health and growth. His quantitative data support the Sukuma statement we sometimes heard in the village: "Our kids don't die." Second, as already discussed, the Sukuma develop cooperative institutions.

The process of cultural group selection involves groups replacing other groups—



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through direct or indirect competition—because of specific group traits. Indeed, the Sukuma are competing successfully with other ethnic groups. The Pimbwe suffer from many social and economic problems and are less successful than the Sukuma in securing their daily needs. We believe that most Pimbwe will survive. Nonetheless, we see evidence of Pimbwe intermarrying with Sukuma, and over the next few decades many Pimbwe will learn Sukuma cultural traditions. In sum, because of cooperative institutions, efforts at child rearing and other cultural traits, it is plausible that elements of Sukuma culture are gradually replacing Pimbwe culture—in other words, evolving by group-level processes.

Unfortunately, success can also lead to failure on some grounds. One of us (Holmes) focused his research on environmental conservation and how ethnic-specific institutions and decision-making processes influence the use of natural resources. The findings are particularly grim. Although the Sukuma have numerous institutional rules to promote Sungusungu and protect cattle, this ethnic group lacks any rules that promote environmental conservation. Although we have heard anecdotes of Sukuma communities and even Sungusungu chapters setting up systems to protect the environment, the Sukuma adjacent to Katavi National Park do not see themselves living in one area for long periods of time. With expectations of moving to new pastures (and short time horizons), most Sukuma are not interested in saving resources for the future. Indeed, they largely shun the activities of an indigenous-founded organization focused on environmental awareness and protection that was established in Kibaoni village with the support of the international group Cultural Survival.

The conflicts engendered over natural-resource management between Sukuma immigrants and indigenous populations are stimulating national-level initiatives for reconciliation and land-use planning, which may in time help transform Sungusungu and Sungusungu-like institutions into an effective resource-management system. Some events suggest that this could happen. In one case, for example, local officials made headway in convincing the Sukuma to do things that were in the interest of the state but costly to the individuals involved. Specifically, a village official sought to protect newly graded roads by forbidding cattle herders from using the roads to move their herds. Seeing the value of good roads, the Sungusungu leaders agreed to negotiate, even though the proposal required herders to walk in the thorns with the snakes—including the deadly black mamba and spitting cobra. On the other hand, cooperation can lead to ugly outcomes. Some Sungusungu organizations in the northern part of the country are described as being Mafia-like, providing protection as a coercive good.

Bill Branch

**Figure 9. Black mamba, a deadly snake, is an emblem of the power of Sungusungu cooperation. In one village, an official wanted to protect roads by prohibiting herders from moving cattle along the roads. Although driving the herders to the thorns along the roads puts them in danger from spitting cobras and black mambas and slows down their work, the Sungusungu leaders agreed to negotiate the matter, seeing the value of good roads. The Sungusungu and Tanzanian state are distrustful of each other and have severe differences, but on many occasions they do work together.**

Like all natural processes, cultural evolution can lead to diverse outcomes through time, and we do not know how the Sungusungu institution will evolve. We prefer, however, to highlight the positive implications of our theory and research: Most individuals have prosocial predispositions. When influenced by large-scale social institutions that stress cooperation and sharing, people do cooperate for the good of the group. In Tanzania, there is a strong cultural tradition that inhibits ethnic conflict and promotes peace across different social groups. As a result, we expect advances in public welfare from grass-roots, cooperative institutions such as the Sungusungu.

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