

Tribe or Nation?

Nation-Building and Public Goods in Kenya versus Tanzania

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Abstract

The design of public policies that promote inter-ethnic cooperation remains poorly understood. This paper examines how central government policies toward ethnic diversity affect inter-ethnic relations by comparing outcomes across two nearby rural districts, one in western Kenya and one in western Tanzania. Despite their largely shared geography, history, and colonial institutional legacy, post-independence governments in Kenya and Tanzania have followed radically different ethnic policies along a range of dimensions – most notably in language use, education, and local institutional design, with Tanzania consistently pursuing more serious “nation-building” policies. The evidence in this paper indicates that the Tanzanian approach has allowed ethnically diverse communities in rural Tanzania to achieve considerably better local public goods outcomes than diverse communities in the nearby Kenyan region. To illustrate, while Kenyan communities at mean levels of ethnic diversity have 40 percent fewer desks per primary school pupil than homogeneous areas on average, the comparable figure for the Tanzanian district is near zero and statistically insignificant. The Kenya-Tanzania comparison provides novel empirical evidence that, in the long-run, serious nation-building reforms in ethnically diverse countries can ameliorate social divisions, and that nation-building should take a place in government policy agendas, especially in Africa, the world’s most ethnically diverse continent.

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1. Introduction

The design of public policies that promote inter-ethnic cooperation remains poorly understood fifteen years after Horowitz's (1985) seminal work. Recent research suggests that higher levels of ethnic diversity are related to low provision of local public goods across United States municipalities (Alesina et al. 1999), and that ethnically diverse societies are prone to corruption, political instability, poor institutional performance, and slow economic growth (Easterly and Levine 1997, Mauro 1995). Ethnic divisions are at the heart of recent conflicts in Europe, South Asia, and Africa that have had enormous human costs, including the Rwandan Genocide (DesForges 1999). Addressing ethnic divisions is likely to be particularly important for sub-Saharan Africa – which is the most ethnically diverse and poorest region in the world.

This paper examines how central government nation-building policies affect inter-ethnic cooperation, by comparing the relationship between local ethnic diversity and public goods across two nearby rural districts, one in western Kenya and one in western Tanzania.

Despite their largely shared geography, history, and colonial institutional legacy, post-independence governments in Kenya and Tanzania have followed radically different ethnic policies along a range of dimensions, most notably in national language policy, the educational curriculum, and local institutional design. Tanzania has consistently pursued more serious nation-building policies – attempts to forge a common national identity attractive across ethnic groups – than Kenya during the post-colonial period, as described in detail below.

The empirical evidence in this paper indicates that the Tanzanian nation-building approach has allowed ethnically diverse communities in rural Tanzania to achieve considerable success in local public goods fundraising, while diverse communities in the nearby Kenyan region typically fail. To illustrate, Kenyan communities at mean levels of ethnic diversity have 40 percent fewer desks per pupil than homogeneous Kenyan communities on average (statistically significant at 95 percent

confidence), but the comparable figure for the Tanzanian district is near zero and statistically insignificant. Analogous results hold when jointly testing hypotheses for multiple public goods, including primary school funding, school infrastructure, and water well maintenance.

Of course, the case study presented in this paper has methodological shortcomings, the most obvious being the small sample size of two countries, lack of a longitudinal dataset, and imperfect econometric identification. Still, *the Kenya-Tanzania comparison provides suggestive micro-economic evidence that in the long-run, serious nation-building reforms in ethnically diverse countries can successfully bridge social divisions, and affect important economic outcomes like public goods provision.* As such, this paper contributes to the growing literature within Economics on the importance of identity to economic choices and outcomes (Akerlof and Kranton 2000), and to recent debates on the role of social capital, institutions, and culture in economic development (Putnam 1993, Acemoglu et al 2001, Sobel 2002).

2. Related Literature on Ethnic Diversity and Economic Development

The seminal article on ethnic diversity within Economics is Easterly and Levine (1997). The authors explore how ethnic diversity affected growth rates across countries during the post-war period, using a dataset on national ethno-linguistic diversity compiled by Russian anthropologists during the 1960's. The continent with the greatest number of ethno-linguistically diverse countries according to this measure is Africa, which contains nine of the ten most diverse countries (the one non-African exception being India). Kenya and Tanzania, for example, have dozens of major ethnic groups and are both among the world's ten most diverse countries.

Easterly and Levine find two striking patterns in the cross-country data. First, ethnically diverse countries had significantly lower per capita economic growth rates than homogeneous countries during the post-war period. Second, Easterly and Levine find that diverse countries

exhibited poor public policy performance along a range of dimensions, including greater foreign exchange distortion, slow financial development, poor schooling outcomes, and less physical infrastructure investment, and use this evidence to argue that diversity led to slow growth through poor policy choices.

Applied microeconomists have since documented many specific instances where ethnic diversity produces sub-par economic outcomes, and for the remainder of this section I briefly survey this growing evidence.¹ To illustrate, Peruvian micro-credit groups have higher loan default rates and lower savings when members are from different cultural backgrounds (Karlan 2002). United States municipalities with higher levels of racial diversity raise considerably less funding for local public goods (Alesina et al 1999). Finally, in the author's own work with Mary Kay Gugerty, which is discussed again below, rural Kenyan communities with greater ethno-linguistic diversity – or diversity across “tribes”, as they are called in East Africa – have considerably less primary school funding, worse school facilities, and poor water well maintenance (Miguel and Gugerty 2002).

There is less consensus regarding the underlying theoretical mechanisms generating these patterns, and two sets of theories have emerged. Although distinct theoretical mechanisms have been found to be more salient in particular settings, the two theories are not mutually exclusive, and both probably capture important aspects of reality in most cases.

The first theories are what I call *taste explanations* for negative ethnic diversity effects. There are several variants of this theory, mainly developed in research on the United States. For example, Alesina et al (1999) have claimed that individuals from different ethnic groups prefer distinct types of public goods – roads versus libraries, for instance – and this leads to less agreement on public goods choices in diverse areas, and thus lower funding. Alesina et al (2000) have claimed that, for the most part, individuals from different groups dislike “mixing” across ethnic lines, and this drives the poor collective action and organizational outcomes in diverse areas. Finally, there is

¹ Refer to Costa and Kahn (2002) for a more complete review.

recent empirical evidence that individuals prefer to fund public goods that benefit their own ethnic group over others, in which case once again funding is lower in diverse areas (Vigdor 2002).

Unfortunately, none of these theories explain where these ethnic taste differences come from, nor how they can be affected through public policy, so this body of work does not directly speak to the central concern of this study, of how to ameliorate ethnic divisions.

The second set of theories emphasizes the important role community *social sanctions* play in sustaining collective action, and how sanctions are ineffective in diverse settings. Observers of less developed countries have long-noted the importance of community pressure based on dense social ties in sustaining good collective outcomes, and the recent empirical studies from less developed countries tend to emphasize this mechanism. The basic idea is that it becomes difficult to sustain cooperation across ethnic groups in areas where members of different groups tend not to have frequent or intimate social interactions, or close social affinity. In this view of the world, public policies that promote interaction, information sharing, and coordination across ethnic groups are plausible vehicles for reducing the inefficiencies associated with ethnic diversity.

For example, Miguel and Gugerty (2002) focus on the difficulties of mobilizing diverse communities in rural Kenya, and present quantitative evidence from primary school committee meeting records that significantly fewer social sanctions are imposed on parents late with school fees in ethnically diverse areas. Karlan (2002) comes to similar conclusions regarding the importance of informal social sanctions in sustaining loan repayment in Peruvian micro-credit groups.

2.1 Reconciling Diversity and Development

There is limited empirical evidence regarding which public policies are most successful in addressing ethnic divisions. One possible institutional reform is to promote *power-sharing* across ethnic groups within governments or other organizations. In such a system, ethnic minorities are assured some minimum influence over policy, possibly including veto power over certain policies. Although

intuitively attractive, in practice it is unclear how power-sharing actually overcomes the underlying causes of negative ethnic diversity effects. In fact, at the same time that power-sharing structures competition among ethnic groups in the political arena, it institutionalizes political divisions across groups rather than bridging them. Rigid power-sharing rules that take ethnic classifications as fixed reify existing ethnic divisions and may hinder the development of new social identities – or multi-ethnic political coalitions – that cut across pre-existing divisions.

A second approach – which may be more promising – advocates promoting dialogue and interaction among the leaders of distinct ethnic communities, who are then better able to coordinate responses to violations of inter-group cooperation norms. One variant of this approach, associated with the work of Fearon and Laitin (1996), would have group leaders agree to punish violators from within their own ethnic group, so-called *within-group policing*. For example, if there is a violent attack on a member of ethnic group A by members of group B, leaders of group B should publicly sanction the perpetrators in their own group, making organized retaliation by group A unnecessary, and thus avoiding a violent downward spiral.

A closely related form of elite coordination is the establishment of formal *associational bonds across ethnic groups*. It has recently been argued that the density of cross-group associational ties is the critical determinant of inter-religious relations in India during episodes of communal violence: Varshney (2002) highlights the case of Bhiwandi, near Bombay, where a determined effort to create inter-religious peace committees in the late 1980s successfully headed off communal violence in the aftermath of the 1992 Ayodhya mosque incident, while nearby cities were engulfed in anti-Muslim pogroms.

However, this theory too has limitations. Approaches predicated on the existence of cooperation among ethnic group leaders beg the question of how this cooperation comes about in the first place. In fact, elite cooperation is as much a manifestation of better ethnic relations as a cause,

and thus it is difficult to draw strong causal claims about how the existence of cross-group associational links actually affects ethnic relations.

2.2 Political Socialization and Nation-building

The literature on “political socialization” within Political Science concerned itself with these and related questions, namely, of how individual political ideals, opinions, identities and preferences are generated. The field focused primarily on how the mass media and the educational system could be employed by political leaders to inculcate citizens with “desirable” political ideals, including, often, a strong attachment to the nation over ethnic and regional identities. To the extent that it is successful in shaping individual views, political socialization offers a way out of the dilemma mentioned above, of determining the origin of tastes for ethnic cooperation. Such nation-building policies may be viewed more generally as investments in “social capital” (Putnam 1993).²

Nation-building reforms in the newly independent East African nations figured prominently in the political socialization literature of the 1960s and 1970s (refer to Prewitt, Von der Muhll and Court 1970). However, this body of research did not reach strong empirical conclusions about how useful political socialization actually was in shaping a coherent national identity or political culture (Court and Kinyanjui 1980), in part because of the limited time between the implementation of nation-building programs in the 1960s and research only a decade later.

Sufficient time has now passed since independence – roughly forty years – to re-assess the impact of political socialization and nation-building policies on inter-ethnic cooperation in East Africa. In the next section I compare the post-independence development trajectories of Kenya and Tanzania, paying particular attention to their divergent nation-building and ethnic policies.

² However, the construction of ethnic identities may also serve different strategic purposes. More recently, Fearon and Laitin (2000) have found that political elites often successfully manipulate ethnic identities to provoke ethnic violence, in their words, to “gain, maintain, or increase their hold on political power.”

3. A Nation-building Case Study: Kenya versus Tanzania

3.1 Geographic and Historical Commonalities

Kenya and Tanzania are a natural paired comparison, with similar geography and histories, but they have followed radically different nation-building policies since independence. Barkan (1994) writes:

Comparison between Kenya and Tanzania [is] ... appealing because of their resemblances with respect to a number of variables that impinge upon the developmental process and that could be held constant or nearly constant in an examination of the countries. Both are populated mainly by small peasant households of similar cultures. ... Both experienced British colonial rule and inherited a common set of political, administrative, and economic institutions, as well as a common market with a single currency and a common infrastructure of rail, port, and telecommunications facilities. As adjacent countries, they share a common climate and have similar natural resource endowments.

The two districts where I have conducted field work – Busia, Kenya, and Meatu, Tanzania (Figure 1) – are the sites of field offices for the same non-governmental organization (ICS Africa), and were originally chosen because they were thought to be poor rural areas in particular need of development assistance. Although the Tanzanian district is somewhat more arid and less densely populated than the Kenya district, the two districts are similar along many other important characteristics. Busia, Kenya and Meatu, Tanzania are located relatively near each other (roughly 400 kilometers apart) on opposite sides of Lake Victoria³, both are overwhelmingly rural and share similar staple crops (maize, sorghum, and cassava), although most of Meatu, Tanzania only has one harvest per year while Busia, Kenya has two. The areas were also part of a shared pre-colonial historical universe, with extensive migration across what is today the Kenya-Tanzania border; the historian David Schoenbrun (1998: 28) writes of the “profound historical unity of Great Lakes cultural practices.”

³ The ideal research design should *not* choose districts literally straddling a common border, since border areas are likely to be strongly influenced by developments in the neighboring country – including attitudes toward ethnic group and nation, potentially – and the existence of these cross-border “spillovers” would complicate the interpretation of outcomes across the regions.

The total 1989 population of Busia was 401,658 (Government of Kenya 1994) and the current population of Meatu is approximately 201,981 (Government of Tanzania 1999). The two districts have similar ethnic compositions, with majority Niger-Kordofanian (Bantu) populations and substantial Nilo-Saharan minorities: the dominant Luhya ethnic group comprise nearly 70 percent of the population in the Kenyan district, while the majority Sukuma group constitute roughly 85 percent of the population of the Tanzanian district (Government of Tanzania 1999). Armed conflict associated with cattle raids was common in both areas during the pre-colonial period (Kidamala 1961, Government of Kenya 1986).

Another similarity lies in the realm of language use: unlike many other regions of Tanzania, Meatu district had minimal cultural and trade ties with Swahili speakers from the East African coast during the 19th century, so few residents of the area spoke Swahili upon independence in the 1960s (Abdulaziz 1971). Swahili was not widely spoken in western Kenya during the pre-colonial period (Gorman 1974).

Moreover, community members play significant roles funding local public goods in both countries, through school committees and water committees in Kenya (Wilson 1992) and through Village Councils in Tanzania, so it is possible to compare local fund-raising across the two districts. Public finance expenditures were increasingly decentralized in Tanzania during the local government reforms of the 1990s (Therkildsen 2000).

The results of the East African Citizenship Project provide further evidence on commonalities. The project surveyed representative national samples of schoolchildren in Kenya and Tanzania in 1966-1967, less than a decade after independence, with a total of over 8,000 respondents. Nearly identical survey instruments were administered in both countries on politics, citizenship, and ethnicity, and the results support the claim that political attitudes were extremely similar in Kenya and Tanzania during that period. In fact, they conclude that “there is an often startling similarity between the responses given by Kenyan and Tanzanian students. ... The cross-national similarities

are so constant as to raise questions about the significance of the nation state as a differentiating variable” (Koff and Von der Muhll 1967: 50).⁴

Of course, this is not to say that Kenya and Tanzania were identical at independence. Nairobi was the cosmopolitan capital of British East Africa, with its large and growing industrial base, and Kenya had experienced a much more violent path toward independence than Tanzania, most dramatically illustrated in the “Mau Mau” Uprising of the 1950s. Tanzania is also somewhat more ethnically diverse than Kenya on the whole, although these differences are relatively minor (refer to Court and Kinyanjui 1980 for further discussion of pre-independence differences). Nonetheless, many social scientists have taken the fundamental similarity of Kenya and Tanzania as an analytical starting point, and this paper follows in that tradition.⁵ Beyond East Africa, other scholars have also used the colonial-era placement of African national borders as a kind of “natural experiment” which allows them to evaluate the long-run impact of different policies (e.g., Miles 1994, Posner 2002).

3.2 Post-independence Divergences

Despite the geographical, historical, and institutional commonalities in western Kenya and western Tanzania discussed above, post-colonial central governments in the two countries have pursued drastically different public policies toward ethnicity, and I argue that this divergence has had a major impact on current ethnic relations. In this section, I briefly highlight the main policy divergences.

Part of the divergence can be attributed to *the personalities and philosophies of their respective independence leaders*, Jomo Kenyatta and Julius Nyerere. Inspired by a pan-Africanist and socialist political philosophy, the gifted Tanzanian leader Julius Nyerere forcefully downplayed the role of ethnic affiliation in public life and instead emphasized a single Tanzanian national

⁴ The author has acquired the original micro-survey data discussed in Koff and Von der Muhll (1967). One limitation of the dataset is that it does not contain pre-independence information, since nation-building policies had diverged by 1967 (the year of the Arusha Declaration), and it thus cannot serve as a true baseline.

⁵ Refer to Barkan (1984) and Barkan (1994) for collections of essays on this theme.

identity. A founding principle of Nyerere's ruling TANU political party was "to fight tribalism and any other factors which would hinder the development of unity among Africans" (Abdulaziz 1980).

National language policy is another area of major differences. Barkan (1994) writes:

The potential for [ethnic] conflict in Tanzania has ... been muted by the near universal use of Kiswahili, which replaced English as the country's official language in the mid-1960s and has evolved its own political idiom, nurturing the development of a national political culture.

Swahili (or "Kiswahili" in East Africa) is an indigenous African language originating on the Indian Ocean coast of East Africa through contact between Africans and Arab traders, and it is seen as largely ethnically "neutral" in both countries. The Tanzanian regime quickly pushed for total "Swahilization" of government administration after independence, and established the National Swahili Council to promote its use in all spheres of public life (Polome 1980).⁶

The public school curriculum in Tanzania has been aggressively employed as a nation-building tool. The curriculum stresses common Tanzanian history, culture, and values, and inculcates students with a strong sense of national and Pan-African identity (Court 1984). Political education was included as early as the late 1960s as a standard curriculum subject in both primary and secondary school, and tested on national exams (Court and Kinyanjui 1980: 67). Moreover, by the 1970s all future teachers were required to serve in the para-military National Service organization, which indoctrinated them in the national ideals of the Tanzanian regime (White 1980).

Prewitt, Von der Muhll and Court (1970: 222) asserted that:

Tanzania is unique among African nations in the extent to which it has self-consciously sought to adapt the educational system inherited at independence to the goals of the postcolonial leadership. Its government is currently engaged in an extensive effort to restructure both the educational curriculum and the organization of school life in the hope of producing a deeper commitment to the new social order.

And Von der Muhll (1971: 24) wrote that:

⁶ Laitin (1992) has discussed the important role of language policy for nation-building in newly independent African states, as well as the existence of lingua francas in other African regions that, like Swahili in East Africa, could potentially serve to promote the construction of stronger national identities.

[T]he government has now committed itself, deliberately and unreservedly, to using the schoolroom environment to effect a radical transformation of the social values of those members of the younger generation whose exposure to formal education has equipped them to play some part in the life of the national community. ... The project currently enjoys a public saliency rarely accorded political education.

The nation-building role of the central government in Kenya could not be more different. Both post-independence presidents, Jomo Kenyatta and Daniel arap Moi, are perceived as “tribalists” within Kenya, as political opportunists who have thrived on the politics of ethnic division. Ethnicity has become the primary cleavage of political life in Kenya – as in many other African countries – and the current regime was widely implicated in arming and financing violent ethnic militias before national elections in 1992 and 1997, fomenting ethnic clashes that left hundreds dead (Ndegwa 1997). Violence in Nairobi’s Kibera slums and elsewhere in the run-up to the 2002 national elections is following a similar pattern.

In terms of language policy, although Swahili has long been widely spoken in Kenya as a lingua franca, it competes with English and “vernacular” languages (Kikuyu, Luhya, Luo, and others) in official settings, including political forums and schools. For example, local vernaculars – rather than Swahili – typically serve as the medium of primary school instruction through the fourth grade, while after fourth grade English is the principal language.

Though official Ministry of Education nation-building pronouncements were similar in Kenya and Tanzania in the 1960s (Koff and Von der Muhll 1967), Court and Ghai (1974: 7) observed that these were merely “vague invocations” in Kenya and “there [was] little evidence within schools that the rhetoric [was] followed by any serious attempts to make real changes” (p. 19). Nearly twenty years after independence, Court and Kinyanjui (1980: 69) concluded that “Tanzanian students have a stronger sense of national identity than their Kenyan counterparts.”

Unlike Tanzania, the central government in Kenya has not used the primary school curriculum to promote a coherent national linguistic or ideological identity: the official Kenyan

Geography, History, and Civics (GHC) curriculum does not study Kenya as a nation until grade 5, instead focusing on “the Village”, “the Division” (an administrative unit), “the District”, and “the Province” in grades 1 through 4, respectively. This focus on provincial geography and history probably serves to exacerbate regional and ethnic divisions, especially among the many Kenyans who drop out of primary school before grade 5, and thus never study national history in detail.⁷

Another important component of the reform package carried out during the Tanzanian socialist period was *the complete overhaul of local government institutions* with the aim of strengthening local Village Councils and District Councils, unlike Kenya, where the colonial-era system of centrally-appointed tribal chiefs was retained. Kenya has no local government institution comparable in either authority or legitimacy to the elected Tanzanian Village Council. In fact, Kenya and Tanzania, respectively, fit neatly into the typology of “conservative” and “radical” post-independence African states developed in Mamdani (1996: 25). In Tanzania, traditional rural authorities and customary tribal law inherited from the colonial period were completely dismantled upon independence, and this may have played a role in further diminishing the role of ethnicity in Tanzanian public life relative to Kenya, where tribal chiefs remained in office.

Finally, the national distribution of central government resources – for education, health, and infrastructure – has served to politicize ethnicity to a far greater extent in Kenya than in Tanzania. The *equitable regional distribution of national public investment* was a centerpiece of Tanzanian socialist policies since the 1960s (Court and Kinyanjui 1980). The post-independence regime in Kenya was much less aggressive in confronting inherited colonial regional imbalances, and heavily favored the ethnically Kikuyu areas that formed the core of Kenyatta’s political support. Since 1978,

⁷ Quantitative evidence from school books also suggests that the Kenyan curriculum is still considerably less pan-Africanist in orientation than the Tanzanian curriculum. As a rough measure of curricular emphasis on Africa and broader African issues, the author counted the number of times the word “Africa” (or “African”) appears in current Kenyan and Tanzanian GHC primary school textbooks for grades 3 through 6, and found more than twice as many mentions of Africa in the Tanzanian textbooks (66.5 times per textbook) than in the Kenyan books (28.6 times). The result also holds if we control for the number of pages per textbook. We examined four current Tanzanian GHC textbooks and five Kenyan GHC textbooks. The author thanks Negar Ghobadi for excellent research assistance.

favoritism toward ruling party areas continued, but shifted to reflect Moi's new ruling coalition centered in the Rift Valley, as documented by Barkan and Chege (1989), further contributing to the political salience of regional and ethnic identities within Kenya.

Taken together, the pan-Africanist ideology of Julius Nyerere, the promotion of Swahili as a national language, the aggressive political and civic education in schools, the dismantling of tribal authorities, and the relatively equal regional distribution of resources contributed to the growing salience of a coherent and popular Tanzanian national identity, which binds Tanzanians together across ethnic lines.

The recent Afro-Barometer public opinion surveys conducted among representative adult samples in twelve countries during 1999-2001 (although not in Kenya, unfortunately) provides further evidence that popular notions of ethnic and national identity in Tanzania are in fact radically different than those found in other African countries (Afro-Barometer 2002).⁸ When asked the open-ended question "Which specific group do you feel you belong to first and foremost", only three percent of Tanzanians responded in terms of an ethnic, language or tribal affiliation, the lowest of the twelve countries in the sample with the exception of small and relatively homogeneous Lesotho (at two percent). Instead, 76 percent of Tanzanians answered in terms of an occupational category (e.g., farmer). This low rate of attachment to ethnic identity stands in sharp contrast to other countries – Nigeria (48 percent), Namibia (46 percent), Mali (39 percent), Malawi (38 percent), and Zimbabwe (36 percent) – where, as in Kenya, ethnic divisions have been politicized during the post-independence period. Moreover, over 90 percent of people in Tanzania claim they are "proud" to be called Tanzanian.⁹ Chaligha et al (2002: 11) conclude that:

President Nyerere's efforts to mould a national identity (for example, by emphasizing Kiswahili and abolishing traditional rule) have borne fruit. The survey certainly provides

⁸ The twelve mainly Anglophone African countries are Botswana, Ghana, Lesotho, Malawi, Mali, Namibia, Nigeria, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.

⁹ Tanzanians also show among the highest levels of support for democracy, confidence in government institutions, and trust in their fellow citizens among the twelve countries surveyed (Chaligha et al 2002).

evidence of a consensual, shared national identity, even in Zanzibar. If Tanzania was once an artificial construct of colonial mapmakers, it is no more. ... [T]he extent of common perception of nationhood and the lack of ethnic considerations in politics is an important reason that Tanzania has been one of the most politically stable countries in the region.

These findings link closely with the existing theories of diversity and collective action surveyed above. First, as the broader Tanzanian identity becomes increasingly attractive and particular ethnic identities lose salience, the “taste” theories become less important, since individuals increasingly identify with all of their fellow citizens rather than just their own tribe, and are thus willing to fund public goods that benefit “other” groups. To the extent that nation-building policies also increase informal inter-ethnic social interactions – in schools, village council meetings, other civic gatherings, or community groups – this could also increase the scope for stronger “social sanctions” across ethnic groups, reducing free-riding and improving local collective action outcomes.

4. Data and Methods

4.1 Data from Busia, Kenya

Jointly with Mary Kay Gugerty, the author has estimated the impact of ethnic diversity on local public good outcomes in a rural Kenyan district in previous work (Miguel and Gugerty 2002), and some of the data and methods in that paper are discussed below.

Detailed data for 100 of the 337 rural primary schools in Busia and Teso districts were collected from pupil, school, and teacher questionnaires in early 1996 as baseline information for a non-governmental organization (ICS Africa) School Assistance Project (SAP).^{10, 11} Busia primary schools are typical for Kenya in terms of educational attainment: the district ranked twenty-sixth of fifty districts on 1995 national primary school exams (Glewwe, Kremer, and Moulin 1998). The non-governmental organization (NGO) that collaborated on the data project collected a variety of

¹⁰ Refer to Miguel and Gugerty (2002) for information on which schools were chosen for the sample.

¹¹ In 1996, the original Busia district was split in two: Teso district is the northern part of the original Busia district, and Busia district is the southern part. I refer to the combined area as “Busia” for simplicity from now on.

financial and demographic data for these schools in 1996. The pupil questionnaire focused on pupil schooling background, family educational characteristics and asset ownership, and self-described ethnic affiliation, and was administered by trained survey enumerators to all grade six through eight pupils present on the day of questionnaire administration. In total, 100 school questionnaires and 861 teacher questionnaires were also administered in 1996.¹² The Busia District Education Office provided school examination results and exam name lists. NGO enumerators used portable Global Positioning System (GPS) machines to collect latitude and longitude for all primary schools and water wells in the sample. The analysis below includes the eighty-four of 100 schools with complete pupil, school, teacher, GPS data, and school committee records.¹³

Ethno-linguistic fractionalization (ELF) is used as the principal empirical measure of ethnic diversity in this study, mainly because this measure has the advantage of comparability with the existing literature (Mauro 1995, Easterly and Levine 1997, and Alesina et al 1999).¹⁴ Ethno-linguistic fractionalization is the probability two people randomly drawn from the population are from distinct groups, and is closely related to a Herfindahl index. Formally,

$$(1) \quad ELF \equiv 1 - \sum_i (\text{Proportion of group } i)^2$$

In Kenya, the principal measure of “local” ethnic diversity for a primary school is computed among all pupils attending primary schools located within five kilometers of the school in question. The five kilometer radius around each school appears to be a rough upper limit on the distance that people may walk to attend school or fetch water on a daily basis, and thus on what may constitute a “community”, although the empirical results are robust to radiuses of between three to six kilometers

¹² School questionnaires – filled by schoolmasters with the assistance of a trained enumerator – contain detailed information on school finances, infrastructure, inputs, and pupil enrollment. Teacher questionnaires focus on teacher qualifications, and were completed by the teachers themselves.

¹³ This dataset is available from the author upon request.

¹⁴ Vigdor (2001) derives the fractionalization index from a simple model of “directed altruism”.

(results not shown). These data were created from 1996 government examination name lists provided by the Busia District Education Office, together with GPS data.

4.1.1 Primary School Organization and Funding

Both the central government and local school committees play important roles in Kenyan primary school finance. The national Kenya Ministry of Education pays teacher salaries, while school committees raise funds locally for desks, classrooms, books, and chalk. Although the teacher salaries and benefits paid by the central government account for most primary school spending – approximately 90 percent of total primary school spending – a reduction in local funding could have an important impact on educational outcomes to the extent local inputs and teachers are complements in educational production.

Each primary school is managed by its own school committee. Parents raise the bulk of local school funds through two mechanisms: school fees and local fundraising events. Annual school fees are set by the school committee and collected by the school headmaster. The school committee is composed of class representatives directly elected by parents of schoolchildren, and typically meets several times per year to discuss school finances and projects.

The other important source of local primary school funding in western Kenya, accounting for approximately one-third of local funding, are village fundraisers called *harambees* in Swahili. At these events parents and other community members meet and publicly pledge financial support for a school project, such as the construction of a classroom. *Harambees* are major local events; planning a *harambee* requires a great deal of effort on the part of the school committee and all parents and members of the local community are expected to attend. While contributions at these events are supposedly voluntary, school committees often announce expected *harambee* contributions for parents, and individual contributions are recorded by the school committee. *Harambees* are an

important source of local public finance throughout Kenya, accounting for 40 percent of total local primary school expenditures, well maintenance, and other public goods according to Wilson (1992).

The main school finance outcome for Kenya is total local school funding collected per pupil in 1995. School facilities and inputs – the number of desks per pupil, latrines per pupil, and classrooms per pupil in 1996 – are other school outcome measures.

4.1.2 Community Water Wells

Water wells are another important local public good in rural East Africa, since well water is generally safer to drink than alternative water sources, such as stream or lake water, and the lack of safe drinking water is a major public health problem that contributes to the spread of water-borne diseases including schistosomiasis, amebiasis, cholera, and other infections (Government of Kenya 1986).

The vast majority of community wells in western Kenya were constructed in 1982-1991 with the assistance of the Finnish government, through an organization called the Kenya-Finland Development Cooperation (KEFINCO). KEFINCO identified well sites in cooperation with local communities, dug the original boreholes, and provided the equipment required to operate the wells. Communities were responsible for forming well committees in charge of maintenance and collecting usage and repair fees from the community. The committees operate on a voluntary basis with little explicit public authority for revenue collection, so their ability to collect fees largely depends on their success in exerting social pressure in the local community.

The data on well maintenance comes from a survey of nearly 700 wells conducted in Kenya from October 2000 to August 2001 by NGO field workers. The sample consists of the universe of modern borehole wells constructed in both districts from 1982-1991 by KEFINCO. The current condition of the KEFINCO wells thus reflects the success of local collective action in maintenance

from the 1980s through 2001.¹⁵ The survey collected detailed information on the physical condition of the wells, as well as GPS locations. The principal dependent variable for well maintenance is an indicator variable that takes on a value of one if water flow in the well was judged to be “normal” by field workers, and zero if either no water flows from the well or if the water flow is “very low”. Only fifty-seven percent of the wells had “normal” water flow at the time of the survey, suggesting widespread collective action failures, echoing an existing Kenyan government report (Community Water Supply Management Project 2000).

In the empirical analysis for Kenya, the unit of observation is a “primary school community”, and we consider all wells within 5 kilometers of the school (using GPS locations) as wells “assigned to” that primary school. This is necessary in order to pool the results from both the primary school and water well regressions and perform joint tests across collective action outcomes, as described below. Unlike Tanzania, rural western Kenya does not have coherent villages with fixed boundaries, and for this reason the Kenya analysis focuses on schools. In practice, this is likely to result in a noisier measure of local ethnic diversity for a particular well, as discussed below.

4.2 Data from Meatu, Tanzania

Data collection for two survey instruments, the Village Council Survey and the Household Survey, was carried out in Meatu, Tanzania in two waves from August 2001 to August 2002 by ICS Africa field staff, with the cooperation of Meatu District Council government authorities. The surveys were designed to be largely comparable with existing survey data from Kenya, but considerable additional information was also collected.

The Village Council Survey was administered in all 71 villages, and has resulted in a unique village-level public finance dataset in a rural African setting. We relied both on interviews with

¹⁵ Unfortunately, we were unable to obtain data on the precise year of construction for each well, and so cannot control for this variable in the analysis below.

Village Council members and on local administrative records – especially the Village Tax Register – for the survey data. Tax registers are universally available and of reasonably consistent quality in the area. Specifically, we collected retrospective information on all village public good projects – including schools, water, roads, and health clinic projects – by year from 1997 to 2002, including funds collected from community members as well as outside funding from other government agencies or NGOs. Field workers also observed the current condition of school, water, road, and health clinic infrastructure; recorded total village population from village records; and determined village ethnic composition (with the assistance of village officials), by assigning ethnic affiliation to all individuals in a 20 percent random sample of the Tax Register. The Tax Register includes all village adult males; unfortunately there is no comparable data for females.

We collected information on social capital measures, including local community groups and attendance at Village Meetings during 2001. Village meeting attendance is constructed as the sum of attendance at all meetings in 2001, divided by the number of households in the village. Village meetings are held for some local elections, to discuss development project planning, and to disseminate information from higher levels of government, for example, recently on HIV/AIDS awareness. We also gathered information on village historical and political characteristics, some of which are described below. Due to logistical problems in the field, five villages are missing data for at least some survey component, reducing the sample to 66 villages.

The 2001-2002 Household Surveys were administered to approximately 15-20 households from each village in Meatu District. Households were randomly chosen from the Tax Register to be surveyed, and neighbors of the Register households were also randomly selected, in order to obtain a reasonably representative sample. In all, 1293 households were surveyed in 2001.¹⁶ The Household Survey included detailed socioeconomic, migration, and demographic questions, and a consumption

¹⁶ Additional Household Surveys were conducted in 2002 but these data have not yet been fully processed for analysis. The 2002 Household Survey results will be included in future versions of this paper.

expenditure module for a subset of households, and the resulting dataset allows us to construct average village living standards, asset ownership, and demographic characteristics.

4.3 Identifying Ethnic Diversity Effects

There are two steps in the econometric identification strategy. First, we estimate the impact of local ethnic diversity on local collective action outcomes in both Kenya and Tanzania (Sections 4.3 and 4.4). Second, we argue that the differences observed across the two districts, in terms of the impact of ethnic diversity on local outcomes, is most likely caused by divergent central government nation-building policies, rather than other causes (Section 4.5).

4.3.1 Ethnic Diversity in Kenya

In order to credibly estimate the relationship between diversity and local collective action outcomes, we must rule out the possibility that local unobservable characteristics correlated with ethnic diversity in each district – rather than ethnic diversity itself – are in fact driving the estimated effects.

Busia and Teso districts in Kenya are moderately ethnically diverse: the largest ethnic groups are the Luhya (67 percent of the sample), Teso (26 percent), and Luo (5 percent). The Luo and Teso are Nilo-Saharan ethno-linguistic groups with pastoralist traditions, and the Luhya are a Bantu (Niger-Kordofanian) group. Luhyas are the majority ethnic group in southern Busia district and Tesos are numerically dominant in northern Busia district, although there are significant minority communities throughout the area.

The exogeneity of ethnic land settlement patterns in Busia district forms a basis for the empirical identification strategy within Kenya. A variety of evidence suggests that current levels of local ethnic diversity in Busia district is largely the product of historical accident rather than recent migration. “The nineteenth century was a time of considerable unrest throughout the District, with

conflict between the Luhya groups, Luo, Teso and Kalenjin” (Government of Kenya 1986). Were (1967) writes that “various factors - famine, epidemics, domestic disputes, the spirit of adventure and warfare – made the inhabitants of the region extremely mobile” from the 17th to 19th centuries, when various Nilo-Saharan ethnic groups migrated to western Kenya from present-day Uganda. Successive waves of Teso and Luo migration, and the resulting wars with established Luhya communities largely determined ethnic residential patterns in the area.

The emergence of British colonial authority in western Kenya in 1894 ended wars and cattle raiding, as well as the population movements that accompanied them. Morgan et al. (1966) writes that ethnic land claims were “frozen by the Colonial Government by the demarcation of ‘African Land Units.’ This prevented the expansion of tribes into another’s territory and thus eliminated the principal source of major inter-tribal wars. ... Within the African areas the indigenous pattern of ‘water-tight’ units was maintained, but accentuated by the increasing population.” Land demarcation and individual land registration during the post-colonial period “has frozen the previously fluid situation and virtually halted the traditional mobility” (Government of Kenya 1986). Busia was free of European settlement – and resulting disruptions of land claims – during the colonial period.¹⁷

Comparing residential ethnic composition at the geographic division level in 1996, using pupil survey data, to residential composition in 1962 using Kenyan Census data (Government of Kenya 1965) suggests that ethnic residence patterns have been largely stable: the ordering of residential ethnic diversity across geographic divisions, measured by the size of the largest ethnic group is identical in 1962 and 1996 (results not shown). Recent survey evidence also suggests that land sales and residential mobility are extremely rare in Busia (Miguel and Gugerty 2002). Residential mobility is low in rural Kenya for a variety of reasons, including the fact that local land

¹⁷ The use of historically determined ethnic settlement patterns in Miguel and Gugerty (2002) to estimate the impact of local ethnic diversity on public good provision in Kenya constitutes an improvement over recent estimates of the impact of ethnic diversity from the United States (Alesina et al 1999): the high rate of residential mobility observed in the United States complicates the interpretation of coefficient estimates on ethnic diversity, since unobserved aspects of school quality or individuals’ taste for education may be correlated with local ethnic composition.

markets are thin, as in much of Sub-Saharan Africa, and because approval from relatives is required *de facto* to sell traditional family land (Platteau 2000).

Although residential patterns in this area are stable, households can choose which local primary school their children will attend and which water well they will use, creating endogenous school populations and water users. Local sorting is an important issue in this context: evidence from a parent survey indicates that nearly one quarter of all households send a child to a primary school that is not the nearest to their home. In order to avoid biases due to endogenous sorting among schools and wells within walking distance of the household, we employ local ethnic diversity within 5 kilometers of each school as our principal measure of local ethnic diversity in the Kenya analysis, rather than the ethnic diversity of actual school pupils or water users.

Endogenous local sorting is less salient in Meatu, Tanzania where individuals live in coherent and separate villages and where population density is lower, and hence households generally have fewer schools and wells to choose from.

4.3.2 Ethnic Diversity in Tanzania

An empirical methodology similar to that used in the Busia, Kenya analysis is used to estimate the relationship between local ethnic diversity and public good provision in Meatu, Tanzania. As in Kenya, understanding patterns of ethnic land settlement is central to the econometric identification strategy. Meatu district was relatively sparsely populated until the mid-20th century, after which increasing numbers of individuals from neighboring areas migrated there in search of additional farmland, so unfortunately, unlike Busia, Kenya, there is no compelling migration “natural experiment” that can be used to identify ethnic diversity effects in Meatu, Tanzania.

Yet the relative stability of residential patterns helps rule out the most obvious forms of recent sorting in response to socioeconomic or public finance variation. There was local migration associated with the forced villagization program of the mid-1970s (which is described in more detail

below), but villagization *per se* did not significantly alter local ethnic settlement patterns since individuals seldom moved more than five miles from their original homes (Mwapachu 1975). Stringent residency regulations during the Socialist period further dampened migration, and, as in rural Kenya, the absence of a well-functioning land market currently contributes to low rates of residential mobility.

Quantitative evidence from the Household Survey also indicates that local residential patterns have in fact been largely stable in Meatu since the mid-1970s. To illustrate, over 80 percent of the young adult (under 30 years) male respondents in the sample have been living in the same village for at least the past ten years.¹⁸ As a further check, rates of residential stability over the past ten years for young adult males are also nearly identical in relatively high ethnic diversity ($ELF > 0.15$) and low diversity ($ELF \leq 0.15$) villages, at 80 and 83 percent, respectively.

Moreover, to the extent that there is endogenous sorting in Meatu, Tanzania, the sorting bias would most likely be negative. There is a widespread perception in Meatu that ethnically diverse areas – mainly in Nyalanja division – are marginalized and have poor quality land, perhaps because members of the dominant Sukuma group secured better areas during the in-migration waves of the mid-20th century. The unconditional correlation between village per capita income and ethnic diversity is negative in Meatu (although not statistically significant), which is consistent with this perception. To the extent that land quality is unobserved, and is not entirely captured by our other socio-economic controls, this would *negatively* bias our estimates of ethnic diversity effects in Meatu, Tanzania, and so the resulting estimates would be *lower bounds* on actual diversity effects.

These arguments cannot definitively resolve the potential problem of omitted variable bias, and this remains an important limitation of the identification strategy for Meatu, Tanzania. Still,

¹⁸ It is natural to focus on male residential stability in this context, since marital exogamy is practiced in this region and thus most women move in with their husband's family upon marriage.

there are no compelling stories of positive sorting bias, it turns out this is sufficient in our case since ethnic diversity effect estimates in Tanzania tend to be near zero, as discussed below.

4.4 Econometric Specifications

The main empirical specification for the estimation of diversity impacts is presented in Equation 2. Y_{ic}^k is the local collective action outcome measure, where k may denote school funding, school infrastructure quality, well maintenance, or another outcome. $ETHNIC_{ic}$ is the measure of local ethnic diversity (ethno-linguistic fractionalization), where i denotes a community (within 5 kilometers around a school or well for Kenya, and in a village for Tanzania), and c denotes the country. X_{ic} is a vector of local socioeconomic, demographic, and geographic controls.

$$(2) \quad Y_{ic}^k = \alpha^k + X_{ic}' \beta^k + \tau^k \cdot ETHNIC_{ic} + \mu_{ic}^k$$

School regression disturbance terms are assumed to be independent across geographic zones (Kenya) or wards (Tanzania) but are clustered within the zones or wards (although results are similar for Kenya when regression disturbance terms are allowed to be correlated across schools as a general function of physical distance using the spatial estimation method in Conley 1999, results not shown).

4.5 Identifying the Impact of Nation-building Policies

The two main methodological weaknesses of this study are, first, the small sample size of only two countries, and second, the lack of longitudinal data on collective action outcomes in the two districts, which would greatly strengthen the case that the two districts were in fact largely comparable in the 1960s and have since diverged. However, these methodological weaknesses are impossible to overcome at this time given the lack of internationally comparable data on ethnic policies, historical patterns of ethnic relations, and current local public goods outcomes. The need to gather original

data on these issues through field surveys limited the number of countries that could be examined in the current study.

Another central identification concern is that pre-existing ethnic relations in Busia, Kenya and Meatu, Tanzania endogenously affected the nation-building policies that were chosen, such that causality actually runs from ethnic cooperation to nation-building, rather than vice versa. Although the nation-building policies chosen in Kenya and Tanzania, as well as the characteristics of post-independence leaders, may indeed have been related to the nature of ethnic relations at the national level in both countries, *all that is necessary for a valid comparison of the impact of nation-building policies in Busia, Kenya and Meatu, Tanzania is that the choice of national policies was not directly related to ethnic relations in these two small and politically marginal districts*, which is plausible.

An important limitation of the study is the inability to separately estimate the effects of various components of the Tanzanian nation-building package – in language, education, national politics, and local institutional reform – on ethnic relations and local collective action. These components may in principle interact in complex and multiple ways, and we are entirely unable to estimate these interactions in this study. Instead, the estimated effects presented below should be seen as the reduced-form impact of the entire Tanzanian reform package on local collective action, relative to Kenyan policies.

A reading of the recent history of western Kenya and western Tanzania indicates that differences in current levels of inter-ethnic cooperation across Busia, Kenya and Meatu, Tanzania are most likely to be due to their strikingly different nation-building policies during the post-colonial period, rather than due to divergent economic policies, or to other factors.

The period of most sustained public policy divergences between Busia, Kenya and Meatu, Tanzania occurred during the mid-1970s: from August 1974 through 1977, the Shinyanga regional government pursued a policy of “forced villagization”, in which over 340,000 rural residents were compelled to leave their homes and move to nearby villages, sometimes by force – including the

burning of resisters' homes (Mwapachu 1975). The centerpiece of Tanzanian rural socialism was the goal of concentrating Tanzania's scattered populations into "*Ujamaa*" villages, where the government could, in theory, more efficiently provide public services, like education and health care, and where collectivized farming would take place (McHenry 1979). Village Council survey evidence indicates that two-thirds of the villages in our sample were created during this brief three year period. Nationally during this period of radical economic reform, Tanzanian economic growth rates lagged far behind Kenyan rates (Barkan 1994).

However, if anything, the policies of the *Ujamaa* period appear likely to have enflamed ethnic tensions, rather than promoting cooperation: the non-Bantu Taturu and Hadzabe minority groups in the area were particularly hard-hit by forced villagization, since it contributed to the erosion of their traditional semi-nomadic lifestyles. To the extent that ethnic relations are currently better in western Tanzania than in western Kenya, it is unlikely to be due to the arbitrary and violent villagization policies – and anemic economic growth – of the *Ujamaa* period.

In the aftermath of *Ujamaa*, the economic policies of Kenya and Tanzania since the financial crises of 1982 have been largely parallel: "There were strong similarities in the nature of and responses to the crisis in each country ... [and] the ongoing efforts at economic reform and structural adjustment in both countries are similar in many respects, [as] they are both spearheaded by International Monetary Fund (IMF) and World Bank programs" (Ndulu and Mwega 1994). Joel Barkan (1994) also documents the broad convergence of economic development strategies and outcomes in Kenya and Tanzania since the 1980s.¹⁹

¹⁹ An alternative explanation for the existence of a stronger national identity in Tanzania could be the successful 1979 war repelling a Ugandan invasion of northwestern Tanzania. Victorious wars have long been credited with promoting national unity (for the British case, refer to Colley 1992). However, this hypothesis appears unlikely for at least two reasons. First, the Uganda war was brief, lasting only three months, leaving little time for wartime struggles against a common foe to serve as "the essential crucible of the nation" (Castles et al 1992). Second, although the war that began as an effort to stop Idi Amin's marauding army, it became an exhausting six-year occupation of Uganda that nearly bankrupted the Tanzanian budget, contributing to the financial crisis of 1982 – not an outcome that generated lasting national pride (Gordon 1994).

4.5.1 Econometric Estimation Equation

Equation 3 presents the empirical estimation framework for the cross-district comparison, where notation is as in equation 2 above. Data points are pooled from both countries in this specification. An indicator variable ($KENYA_{ic}$) is included for Kenyan communities to capture any average differences in levels across the two districts.

$$(3) \quad Y_{ic}^k = a_1^k + a_2^k \cdot KENYA_{ic} + X_{ic}' \beta^k \\ + \tau_1^k \cdot ETHNIC_{ic} + \tau_2^k \cdot \{ETHNIC_{ic} * KENYA_{ic}\} + \mu_{ic}^k$$

The coefficient estimate of τ_1^k captures the impact of ethnic diversity on local outcomes in Tanzania for outcome k , while $\tau_1^k + \tau_2^k$ is the effect in Kenya. The main hypothesis of this paper can be restated as $H_0: \tau_2^k = 0$, jointly for all outcomes k . Rejecting this hypothesis is equivalent to finding that ethnic diversity has significantly different effects on local collective action in Busia, Kenya and in Meatu, Tanzania.

The existence of multiple collective action outcomes provides additional statistical power to reject the hypothesis that the impact of diversity is the same in the two districts. Collective action outcomes for a given village are only imperfectly correlated due to various idiosyncratic factors, including the competence of local officials and the school headmaster, for instance. To illustrate, the correlation between desks per pupil and classrooms per pupil in Busia, Kenya is approximately 0.4, while the correlation between school funding per pupil and the quality of well maintenance is only 0.1, and similar patterns hold in Meatu, Tanzania. So the confidence interval around the estimated impact of ethnic diversity when data is pooled across collective action outcomes is considerably narrower than the interval for any single outcome.

Two methods are used to pool data across outcomes and produce an overall estimate of the impact of ethnic diversity on local collective action. The first method is seemingly unrelated

regression (SUR), in which each regression is estimated separately, but disturbance terms are allowed to be correlated across outcome measures for the same village (or school) during hypothesis testing. This method uses information from multiple dependent variables to test whether the effect of ethnic diversity local public goods differs across Busia, Kenya and Meatu, Tanzania overall.²⁰

The second, related, method is a specification that literally pools data across collective action outcomes, imposing common coefficient estimates and error structure. Regression disturbance are allowed to be correlated (clustered) across the various collective action outcomes for each village (Tanzania) or school community (Kenya), since common unobserved influences may affect different outcomes. In order to have comparability across different outcomes – e.g., school funding per pupil and the proportion of functioning water wells, which are measured in different units – collective action outcomes are normalized (within each district), such that they are mean zero and standard deviation one, and then the data are “stacked”. This comes at the cost of making coefficient estimates more difficult to interpret, and imposing a single regression framework may lead to specification errors, and thus this approach is less attractive than the SUR method described above.

5. Empirical Results from Western Kenya and Western Tanzania

5.1 Descriptive Statistics

Average levels of local ethnic diversity are similar in the two districts, although somewhat higher in the Kenyan district: the average level of *ELF* in Busia, Kenya is 0.23 and in Meatu, Tanzania 0.15 (Table 1, Panel A). Nonetheless the supports of the two local *ELF* distributions are nearly identical, ranging from zero to 0.6, and there is considerable variation in local ethnic diversity in both districts.

In terms of local public goods, school fundraising levels are somewhat higher in Meatu, Tanzania, but the quality of school infrastructure in Busia, Kenya is considerably better. For

²⁰ Since the set of explanatory variables is the same across outcome measures, SUR coefficient estimates are identical to OLS. The advantage of SUR lies in allowing us to perform joint hypothesis tests across regressions.

example, while there are only 0.013 classrooms per pupil in Tanzania, there are 0.031 classrooms per pupil in Kenya and there are also large differences in the provision of latrines and in the pupil-teacher ratio across the two districts, with Kenya consistently having better quality infrastructure. This indicates that it will be important to include a regression term (the *KENYA* indicator variable discussed above) that controls for levels differences across districts. The proportion of wells with “normal water flow” is very low and nearly identical, at 57 percent in Meatu, Tanzania and 56 percent in Busia, Kenya, suggesting pervasive local collective action failures in both districts.

Busia, Kenya is similar to Meatu, Tanzania along some socioeconomic characteristics – including the proportion of homes with iron roofs, livestock ownership, and the proportion of households that grow a cash crop – but is consistently better-off along several others. For example, both average educational attainment and the proportion of respondents with formal sector employment are substantially higher in Busia, Kenya than in Meatu, Tanzania.²¹ These socioeconomic characteristics, as well as the proportion of Catholic households, are included in all regression specifications as control variables.²²

Table 1, Panel B presents data that exist only for the Tanzanian district, including average total annual expenditures on local public finance projects. Information on the cost of different types of local public projects was provided by the Meatu District Council and the Dutch Rural

²¹ These differences are potentially somewhat misleading for the following reason: the Kenyan data reported in Table 1, Panel A is for pupils’ fathers. However, even though most respondents in the Tanzanian survey were also male (two-thirds) and respondents tended to be young adults – and thus comparable to the Kenyan data – a minority of Tanzanian respondents were women or elderly. Women and the elderly have lower educational attainment and less formal sector employment on average, compared to young men, and thus the actual socioeconomic gaps between the two districts are likely to be somewhat smaller than those reported in Table 1.

²² Religious diversity is not included as an explanatory variable in the analysis since local religious affiliation is not plausibly exogenous due to extensive missionary activity in both districts during the past fifty years. A negative correlation between religious fragmentation and local outcomes would be misleading if evangelical activity is targeted to, and is most successful in, the poorest areas or areas with low levels of social capital, for example. The numerical strength of “traditional” religions in Meatu – over 60 percent of the household sample – also complicates the interpretation of the religious fragmentation index, since it is difficult to distinguish between different traditional belief systems and to disentangle these religious differences from ethnic identity. Finally, since the most salient religious cleavage in East Africa is that between Christians and Muslims, the absence of large Muslim populations in these districts blunts the most likely religious divisions.

Development Programme. Each village funded 8.65 USD worth of local public finance projects per household per year on average from 1997 to 2002, and there was considerable variation across villages in these funding levels (standard deviation 6.39 USD). Most of this funding was spent on education, health, and water projects. Villages complete only 0.67 local projects per year, so roughly four projects per village on average in the six years of survey data.

The information on actual 2001 tax collection per household indicates that only a fraction of total local public goods contributions are in cash while the remaining contributions are often in kind, usually in materials and labor. In addition, some funding for local projects in Tanzania comes in the form of assistance from the Meatu District Council (MDC) or other Tanzanian government agencies (e.g., the Tanzanian Social Action Fund, TASAF) or non-governmental organizations (NGOs). This assistance is typically structured as “cost-sharing”: the MDC or TASAF provide partial assistance for classroom construction, provided that the Village Council raises at least a certain portion of the funds from the local community. NGO’s also often follow such cost-sharing policies both in Meatu, Tanzania and in Busia, Kenya.

Thus, in both western Kenya and western Tanzania the bulk of funding, materials, and labor for local public goods is raised locally, but with some degree of outside assistance. The public finance outcomes described in this paper thus capture both the ability of communities to raise funds and supplies locally, as well as their ability to secure funds from outside donors, and both of these are important collective action outcomes in their own right.

5.2 Ethnic Diversity and Local Collective Action Outcomes in Kenya and Tanzania

The two key terms in Table 2 are the coefficient estimate on the *ELF*KENYA* interaction term, which is the difference between the impact of ethnic diversity on the public goods outcome in Kenya versus Tanzania, and the coefficient estimate on local ethnic diversity (*ELF*), which can be

interpreted as the relationship between ethnic diversity and the local public goods outcome in Tanzania. The sum of these two coefficient estimates is the impact of ethnic diversity in Kenya.

The estimated relationship between ethnic diversity and local public goods provision in Busia, Kenya – the sum of the coefficient estimates on the *ELF* and *ELF*KENYA* terms – is negative for all five local public goods outcomes on which there is data for both countries (local primary school funding per pupil, desks per pupil, latrines per pupil, classrooms per pupil, and the proportion of water wells with normal water flow), and statistically significantly different than zero for desks per pupil. The desks per pupil result implies that the change from ethnic homogeneity to average levels of diversity in Busia, Kenya is associated with a drop of approximately 40 percent in average desks per pupil – a large effect – while the estimated effect for Meatu, Tanzania is small, positive and statistically insignificant. Figure 2 graphically presents the negative relationship between ethnic diversity versus local school funding in Busia, Kenya, and Figure 3 presents the negative relationship between diversity and desks per pupil.

One important difference between the results in Table 2 and those in Miguel and Gugerty (2002) is the econometric specification used to estimate the impact of local ethnic diversity on well maintenance. In Miguel and Gugerty (2002), each water well is considered a separate data point, and an ethnic diversity measure specific to that well (typically diversity within 5 kilometers of the well) is constructed. By way of contrast, in Table 2 we examine well maintenance within 5 kilometers of each primary school in the sample, *and consider the local ethnic diversity of that primary school as the key explanatory variable*. This school diversity measure is thus a noisy measure of the ethnic diversity of each well located within 5 kilometers of the school, and resulting attenuation bias in the coefficient estimate on ethnic diversity is the most likely explanation why the well results in Table 2 are weaker than those in Miguel and Gugerty (2002). In Miguel and Gugerty (2002), the comparable coefficient estimate on local ethnic diversity is -0.26 (standard error 0.14, statistically significant at over 90 percent confidence).

For all four primary school outcomes, the coefficient estimate on *ELF* is statistically insignificant, suggesting that there is no strong relationship between village diversity and local school funding in Meatu, Tanzania. For one outcome – the proportion of water wells with normal water flow – the coefficient estimate on *ELF* is negative and marginally statistically significant, suggesting that diverse villages in Tanzania do a somewhat worse job of maintaining water wells. However, Table 3 below provides more compelling evidence on the water infrastructure in Meatu, Tanzania: the number of functioning wells per household is not in fact any lower in diverse villages, as we discuss below. Figure 4 graphically presents the positive but statistically insignificant estimated relationship between local ethnic diversity and school funding in Meatu, Tanzania, and Figure 5 presents the relationship between diversity and desks per pupil. These offer a sharp contrast with the negative relationships in Kenya.

The key coefficient estimate for our purposes is that on the *ELF*KENYA* term, which captures how the relationship between ethnic diversity and local public goods differs between Busia, Kenya and Meatu, Tanzania. We find that the coefficient estimate is negative in four of the five outcomes we examine, and is negative and statistically significant at 95 percent confidence in the case of desks per pupil. Using the seemingly unrelated regression (SUR) method, which combines information across dependent variables, allows us to jointly test hypotheses for the five regressions, and the hypothesis that the coefficient estimate on *ELF*KENYA* is equal to zero is rejected at 95 percent confidence (p-value=0.049). In other words, local ethnic diversity has a significantly more negative effect on local public goods provision in Busia, Kenya than in Meatu, Tanzania. This is the main empirical result of the paper. By way of contrast, we are unable to reject the hypothesis that the coefficient estimate on the *ELF* term is zero (p-value=0.38).

The SUR results are robust to aggregating the data up to the ward level (for Meatu, Tanzania) and the zone level (for Busia, Kenya); the 66 Tanzanian villages in our sample are located in 19 wards and the 84 Kenyan primary schools are in 22 zones. One advantage of analyzing data at

higher levels of aggregation is that it reduces the likely bias from endogenous local residential sorting decisions. We again reject the hypothesis that the coefficient on the *ELF*KENYA* term is equal to zero, this time at 99 percent confidence (results not shown).

The second method of pooling information across outcomes is presented in regression 6, in which we normalize all outcomes (by district) and then stack the data. Consistent with the SUR results, we once again we find that the coefficient estimate on *ELF* is not statistically significantly different than zero, while the coefficient estimate on *ELF*KENYA* is negative and significantly different than zero at 95 percent confidence, confirming the main finding.

5.3 Other Public Finance Outcomes in Tanzania

Ethnic diversity is robustly unrelated to a range of other local public finance outcomes in Meatu, Tanzania. Total local expenditures per household on all public goods projects – which is perhaps the best estimate of total local Village Council activity – is not significantly related to local ethnic diversity and the coefficient estimate is near zero (coefficient estimate 3.8 USD, standard error 6.8 USD), and the same holds for local expenditures on health and water well projects, total local tax collection, and the number of completed local public goods projects (Table 3, Panel A). A similar finding holds for average spending on local taxes and school expenses, using Household Survey data (Table 3, Panel B). There is also no evidence that the quality of local water well or road infrastructure is related to local ethnic diversity (Table 3, Panel C). All results in Table 3 are robust to the inclusion of average village per capita consumption expenditures (from the Household Survey) and the village consumption Gini coefficient as additional explanatory variables (results not shown).

We are unable to reject the joint hypothesis that the coefficient on *ELF* is equal to zero across all thirteen local public finance outcomes in Meatu presented in Tables 2 and 3 (p-value=0.93).

5.4 Community Groups

The results on ethnic diversity and community group membership in Meatu, Tanzania are mixed: there is no significant relationship between village ethnic diversity and the total number of community groups or attendance at village meetings, and in fact the point estimates on ethnic diversity are mainly positive and insignificant (Table 4, Panel A). However, there is a strong negative relationship between local ethnic diversity and the probability that a Household Survey respondent was a member of a community group (Table 4, Panel B), echoing recent findings from the U.S. (Alesina and LaFerrara 2000). This membership effect is reasonably large: the change from complete ethnic homogeneity to average levels of ethnic diversity in Meatu, Tanzania is associated with a ten percent (3 percentage point) drop in average community group membership.²³

This negative result on community group membership appear inconsistent with the robust local public goods findings presented above, at first glance. One natural interpretation is that the nation-building policies pursued in Tanzania have promoted local collective action – attendance at local village meetings and local public fundraising, for example – but have not affected less “formal” patterns of social interaction, as expressed in community group membership (for example, in women’s self-help groups). This resonates with the hypothesis that nation-building in Tanzania affected individual “taste” for inter-ethnic cooperation rather than affecting the “social sanctions”

²³ The author attempted to obtain analogous data on community group densities for the Kenyan district, with only partial success. Data on registered community group membership in Kenya were available for only part of the sample area due to difficulties in obtaining the administrative data from local officials. Restricting attention to registered groups is also not ideal, since many community groups are not registered in Kenya. (The enumerators for the 2001 Meatu, Tanzania surveys specified that they were interested in both registered and unregistered community groups, so this should not be as serious a problem there.) The relationship between local ethnic diversity and total registered group membership in this limited sample is consistently negative, and statistically significant at 90 percent confidence in some specifications (results available upon request). Due to the data limitations mentioned above, however, I have opted not to highlight the Kenyan results in the text.

technology available to Tanzanians. To further explore these issues, in the next section we turn to existing World Bank household surveys for Tanzania.²⁴

6. Ethnic Diversity and Social Capital in Tanzania: Results from World Bank Surveys

This section uses data from the 1995 Tanzania Social Capital and Poverty Survey (SCPS) and the 1993 Tanzania Human Resource Development Survey (HRDS), both conducted by the World Bank. The SCPS sampled 87 rural clusters (subsets of villages) from the National Master Sample framework maintained by the Tanzania Bureau of Statistics, and fifteen households were randomly sampled in each cluster (Narayan 1997).²⁵ Because the HRDS also used the National Master Sample framework, we matched SCPS and HRDS clusters, and this allows us to construct cluster-level ethnic fractionalization, the principal measure of local ethnic diversity in the empirical analysis below.

The SCPS was primarily concerned with measuring social capital, but also contained questions on agricultural patterns, savings and credit, environmental resources, and household assets, and for fifty-three of the SCPS clusters, household consumption expenditure data was also collected. The survey instrument allows us to measure various dimensions of social capital. For example, individuals were asked about community group memberships, asked to rate “village unity” and the “spirit of participation” in their community, as well as to evaluate the level of “trust” they had for different types of people (for example, tribal elders, political leaders, and members of other ethnic groups). Normalized indices ranging in value from zero to one were then created, where values close to one indicate higher levels of social capital. The trust index used in Table 5 is the (normalized) sum of expressed “trust” across all categories of people.

²⁴ Future versions of this paper will present additional household level information on the characteristics of informal social networks, and attitudes towards the ethnic group and nation, in both districts, to further distinguish between these two competing theories of ethnic diversity and local collective action.

²⁵ However, it appears that this may not have been the case in practice. We have observations on 6 to 21 households in each cluster with nonmissing data on the variables of interest to us. Refer to LaFerrara (1999) for a more detailed description of the data, and for an examination of income inequality and group membership in the same setting.

The empirical specification is similar to Equation 2 above. Since the dataset contains data across Tanzanian regions, it is difficult to make convincing arguments establishing that the statistical correlation between ethnic diversity and the social capital represents a truly causal relationship, or even a lower bound on a causal relationship (as for Meatu, Tanzania), due to possible positive or negative omitted variable biases, although the inclusion of a rich set of explanatory variables ameliorates this concern to some extent.²⁶ As a result, it is best to see these regressions as suggestive evidence regarding the impact of ethnic diversity on social capital outcomes.

Consistent with the findings in Table 4, the World Bank survey data indicate that community group membership rates are in fact somewhat lower in ethnically diverse communities (Table 5, Panel A), although the coefficient estimate on *ELF* is not significantly different than zero at traditional confidence levels. The relationship between ethnic diversity and group membership is driven by lower membership rates in non-religious community groups, and this effect is marginally statistically significant (coefficient estimate -0.32 , standard error 0.21). However, there is no significant relationship between local ethnic diversity and subjective measures of trust, village unity, or participation in these villages (Table 5, Panel B), and these may be the key factors driving the public goods results.

Taken together, the results suggest that even though ethnic diversity is associated with lower community group membership rates in Meatu district and in Tanzania as a whole, it does *not* affect perceived community unity, self-expressed trust of others, village meeting attendance, or the ability to fund local public goods.

7. Conclusion

²⁶ As explanatory variables, we include individual characteristics including a household income measure, and the respondent's educational attainment, sex, and age. The income measure is household expenditure per adult equivalent. We also control for average village-level expenditure per capita, and inequality using the Gini measure.

To summarize the main results, although western Kenya and western Tanzania were largely similar along key social, economic, and political dimensions in the 1960s, after independence Tanzania adopted perhaps the most serious nation-building program in sub-Saharan Africa, and in forty years these regions have diverged sharply: ethnic diversity leads to lower public goods funding in western Kenya, but is not associated with collective action outcomes in western Tanzania.

Moving to the national level, Tanzanian economic growth rates were also substantially faster than Kenyan growth rates during the 1990s, governance and institutional quality were considerably higher, and national politics less violent (UNDP 2002). Although we should not read too much into the national differences – which are the product of many factors – these broad patterns are also consistent with the claim that Tanzanian nation-building policies have indeed had a beneficial long-run impact on political stability and economic development.

On a less formal level, visitors to Kenya and Tanzania – including the author – are routinely struck by different popular attitudes towards tribe and nation in the two countries, and the far greater degree of attachment to national ideals, to national leaders, and to the Swahili language in Tanzania (although the lingering separatist dispute with Zanzibar indicates that regional divisions have not been entirely eliminated). To illustrate, during fieldwork in November 2000, one Tanzanian schoolteacher responded to a question about possible inter-ethnic divisions on the school committee by stating: “This is Tanzania – we do not have that sort of problem here.”

7.1 Potential Drawbacks to Nation-building in Diverse Societies

There are also many legitimate sources of concern regarding nation-building policies like those pursued in Tanzania. First, the articulation and imposition of a single national identity through coordinated public policies may have serious negative costs for communities that do not fit neatly into the dominant national vision, as well-known European examples illustrate. The construction of a British national identity from distinct English and Scottish identities during the 18th and 19th

centuries was forged around common Protestant religious traditions and the English language, but no comparable compromise was reached for integrating Catholics or Celtic-language speakers into the mainstream of British public life (Colley 1992). The process of nation-building in France also entailed the loss of numerous regional linguistic and cultural identities (Weber 1976).

As a result, the fear remains real in many societies that the construction of a national identity will accelerate the erosion of indigenous cultures – and perhaps inevitably lead to a backlash by those who perceive these policies as a threat to their way of life. Nation-building policies could also be employed by opportunistic ethnic majority leaders to repress the legitimate political aspirations of minority groups under the guise of benign reform; the historical treatment of the Kurds in Turkey is one example. In societies with pronounced ethnic divisions, the process of nation-building may be slow and painful, such that in the short-term other solutions – including extensive decentralization, or even the secession of regions dominated by dissident minority groups – may actually lead to less conflict and more rapid economic development.

Even if nation-building policies should not be applied in every ethnically diverse society, the Tanzanian case suggests that nation-building can succeed without jeopardizing indigenous cultures and languages in an African context. Most vernacular languages – like the Sukuma language in Meatu – continue to thrive in non-official contexts in Tanzania decades after independence, co-existing with Swahili in homes and markets. In fact, one key to the success of the Tanzanian reform program may be that the central government never made efforts to “stamp out” vernacular languages or most indigenous cultural practices, nor to deny the very existence of particular ethnic groups.²⁷

The maintenance of distinct Scottish and Welsh identities – and a thriving Welsh language – in Great Britain after centuries of nation-building and cultural diversity are compatible in the long run.

²⁷ One partial exception to the inclusiveness of the Tanzanian approach is the small and wealthy South Asian community, who were never entirely welcome within Nyerere’s pan-Africanist and socialist vision, as well as several small groups that rely on hunting and gathering for food – like the Hadzabe in Meatu district – who have seen their numbers shrink rapidly in recent decades as other Tanzanians have encroached on their traditional lands.

Another reasonable concern about nation-building is that, although it binds people together within a society – reducing the likelihood of domestic civil strife – it may provoke nationalistic impulses that lead to war with neighboring countries. However, once again, this fear has not materialized in Tanzania. In fact, Tanzania has been an excellent neighbor, accepting millions of refugees fleeing armed conflicts in the region, and Tanzanian leaders have worked tirelessly for negotiated settlements to several African civil wars, most recently in Burundi. Internal tranquility and international peace have gone hand in hand for Tanzania, perhaps as a result of the pan-Africanist ideals at the heart of Julius Nyerere’s political philosophy.

7.2 Ethnic Diversity and Public Policy

Promoting nation-building policies will require a dramatic restructuring of cultural, educational, and language policies in many countries, and the centralized nature of this restructuring runs against current “Washington Consensus” thinking about economic development, which strongly advocates political and fiscal decentralization in less developed countries. Nation-building in less developed countries is also likely to be opposed by powerful politicians in the global North, concerned that increasingly nationalistic less developed countries will promote anti-Northern and anti-globalization views. Moreover, the benefits of nation-building may take decades to materialize.

Nonetheless, the results of this paper suggest that the risks may be worth taking, and that nation-building should move onto government policy agendas, especially in Africa. The articulation of new national political identities and institutions has been underway in many African countries since the democratization wave of the early 1990’s, which re-opened the public debate on the nature of the state in Africa. As a result, the upcoming decade may be a special window of opportunity for progressive African political leaders to adopt elements of the Tanzanian nation-building “model” as investments in long-run social stability and economic growth.

8. Tables and Figures

Figure 1: Map of East Africa
(featuring Busia District, Kenya and Meatu District, Tanzania)



Figure 2: Busia, Kenya – Total local primary school funds per pupil (2001 U.S. dollars) in 1995 versus residential ethno-linguistic fractionalization in the geographic zone

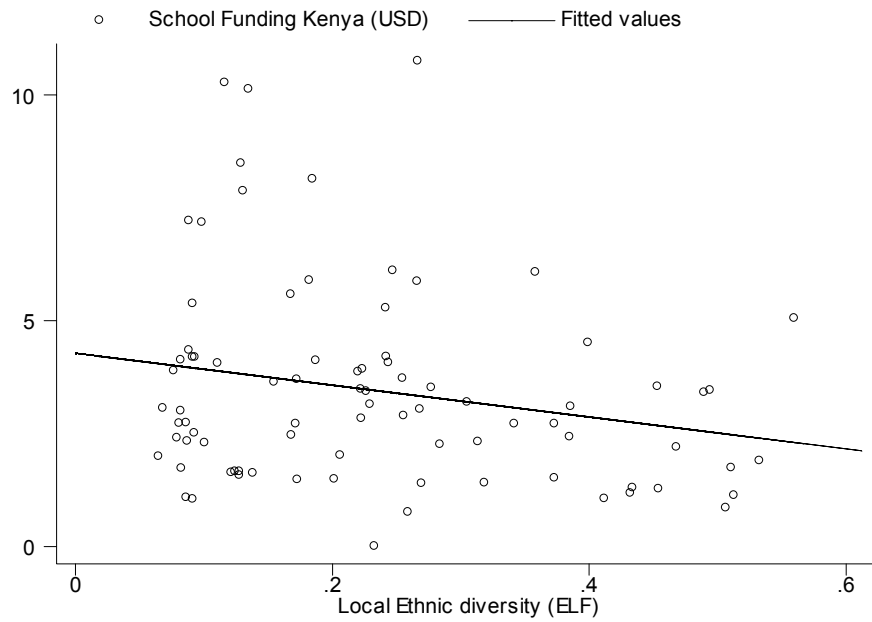


Figure 3: Busia, Kenya – Desks per primary school pupil in 1996 versus residential ethno-linguistic fractionalization in the geographic zone

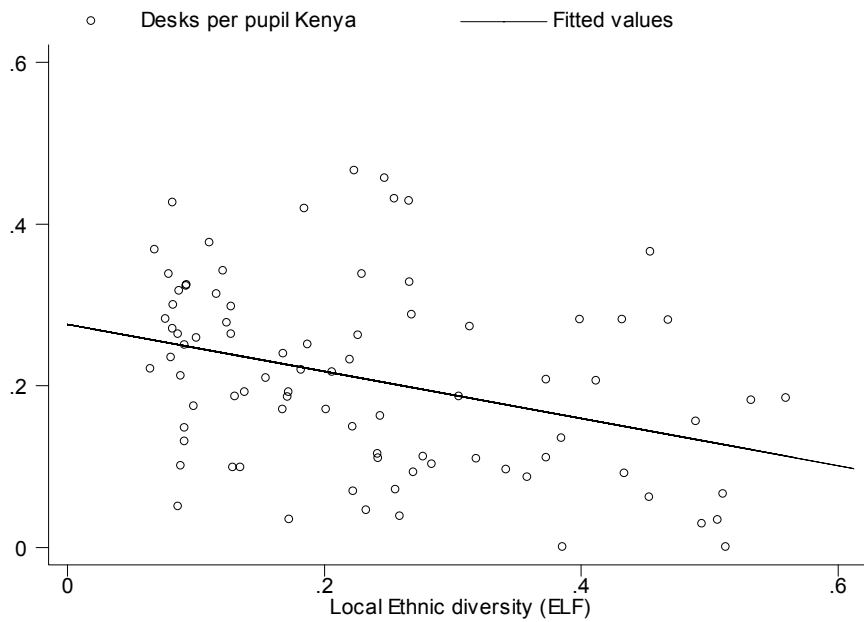


Figure 4: Meatu, Tanzania – Total local school funds per pupil (2001 U.S. dollars) per year in 1997-2002 versus residential ethno-linguistic fractionalization in the ward

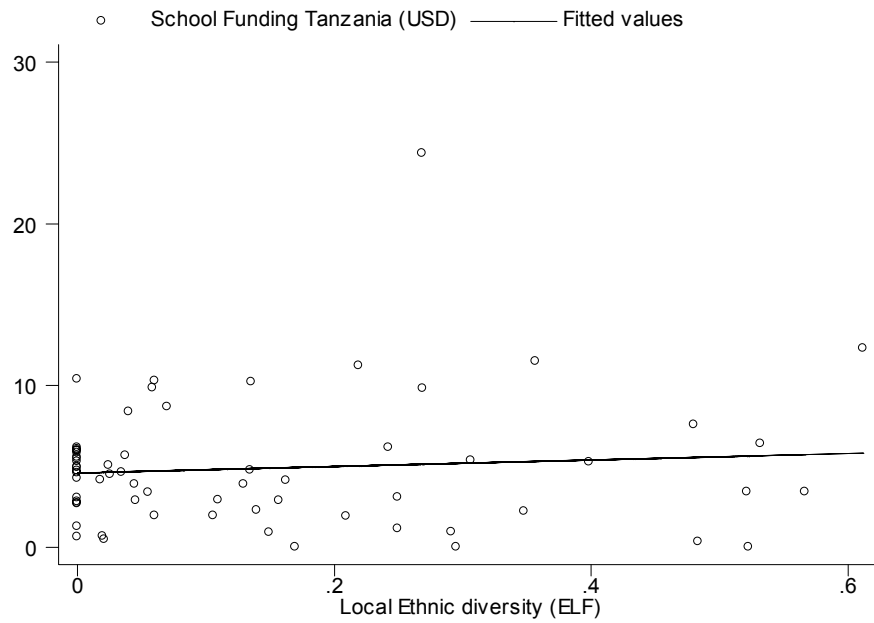


Figure 5: Meatu, Tanzania – Desks per primary school pupil in 2001 versus residential ethno-linguistic fractionalization in the ward

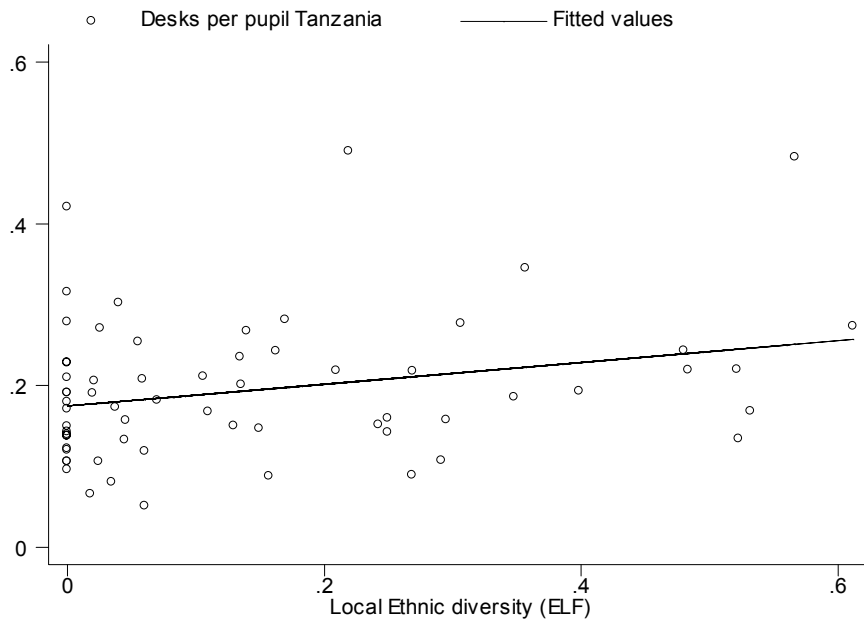


Table 1: Descriptive Statistics

	Meatu District, Tanzania			Busia District, Kenya		
	Mean	Std dev.	Obs. (villages)	Mean	Std dev.	Obs. (schools)
Panel A: Data for Tanzania and Kenya						
Local ethnic fractionalization (ELF)	0.15	0.17	66	0.23	0.14	84
Annual expenditures on local primary school projects per pupil (USD)	4.89	3.90	66	3.45	2.23	84
Desks per primary school pupil	0.19	0.09	66	0.21	0.12	84
Latrines per primary school pupil	0.011	0.005	66	0.016	0.013	84
Classrooms per primary school pupil	0.013	0.005	66	0.031	0.014	84
Teachers per primary school pupil	0.013	0.004	66	0.039	0.015	84
Proportion wells with “normal water flow”	0.57	0.37	66	0.56	0.14	84
Average years of education	4.1	1.1	66	7.4	1.3	84
Proportion formal sector employment	0.06	0.07	66	0.23	0.10	84
Proportion of homes with iron roofs	0.26	0.20	66	0.24	0.10	84
Proportion households grow cash crops	0.61	0.25	66	0.40	0.24	84
Proportion households own cattle	0.47	0.17	66	0.60	0.19	84
Proportion Catholic	0.17	0.12	66	0.58	0.22	84
Panel B: Data for Tanzania						
Number of households per village	408.3	179.2	66	-	-	-
Annual per capita consumption expenditures (USD)	192.2	82.5	66	-	-	-
Gini coefficient of annual per capita consumption expenditures (at village level)	0.35	0.15	66	-	-	-
Annual local expenditures on all public goods projects, per household (USD)	8.65	6.39	66	-	-	-
Annual local expenditures on health and water well projects, per household (USD)	1.51	1.78	66	-	-	-
Total annual local tax collection, per household (USD)	2.14	3.47	66	-	-	-
Average number of completed local public goods project, per year	0.67	0.40	66	-	-	-
Average household spending on local taxes and school expenses (USD) [HH Survey]	12.17	14.29	66	-	-	-
Wells with normal water flow, per household	0.008	0.009	66	-	-	-
Total water wells, per household	0.014	0.011	66	-	-	-
Average road quality (scale 1-4)	2.5	0.8	65	-	-	-
Community groups, per household	0.026	0.017	66	-	-	-
Women’s groups, per household	0.004	0.005	66	-	-	-
Youth groups, per household	0.004	0.007	66	-	-	-
Water groups, per household	0.011	0.011	66	-	-	-
Proportion survey respondents who are community group members [HH Survey]	0.33	0.23	66	-	-	-
Village meeting attendance, per household	1.22	1.03	66	-	-	-

Table 1 Notes:

1) Busia, Kenya data are from the 1996 ICS School and Pupil Questionnaires, 1996 Government Examination Namelists, and Global Positioning Systems (GPS) readings taken by NGO field workers. Each Kenyan data point

refers to a primary school, or to the 5 km radius around a school (in the case of the ethnic composition and water well maintenance). Meatu, Tanzania data are from the 2001-2002 Household Survey and 2001-2002 Village Council Surveys, and ethnicity measures are for the village, computed using a 20 percent random sample of the Village Tax Register, to which ethnic affiliation was assigned.

2) For “Annual local expenditures on primary school projects per pupil (USD)”, the Kenyan data are from school records about parent and community contributions to the school in 1995. For Tanzania, local project values were obtained from the Meatu District Council and the Dutch Rural Development Programme, and then combined with 2001-2 Village Council Survey information on the types of project completed in each village to determine the overall value of local project activity. Thus measures for the two countries are not entirely equivalent. All dollar figures for both countries are in 2002 USD.

3) Local characteristics (education, employment, etc.) for Kenya are from the 1996 Pupil Questionnaire, and are data about pupils’ fathers. Local characteristics for Tanzania are from the 2001-2 Household Survey, in which both men and women were surveyed, though two-thirds of respondents were men. The gender of respondents may partially explain differences in average reported socio-economic characteristics between Busia, Kenya and Meatu, Tanzania, since educational attainment and formal sector employment are higher among men in both countries, and the Tanzanian sample contains both men and women while the Kenyan sample contains only men (fathers), and some Tanzanian respondents were also elderly, and the elderly tend to have less education and formal employment.

Table 2: Ethnic Diversity and Local Public Goods (Kenya and Tanzania)

Explanatory variable	Annual school spending / pupil (USD)	Desks / pupil	Latrines / pupil	Classrooms / pupil	Proportion wells with normal flow	All outcomes (normalized and stacked)
	(1)	(2)	(3)	(4)	(5)	(6)
Local ethnic diversity (ELF) * Kenya Indicator	-4.7 (4.8)	-0.37** (0.14)	-0.016 (0.011)	-0.014 (0.010)	0.21 (0.29)	-1.75** (0.72)
Local ethnic diversity (ELF)	1.3 (3.4)	0.11 (0.09)	0.005 (0.004)	0.008 (0.005)	-0.31* (0.18)	0.60 (0.48)
Kenya indicator variable	-2.8** (1.2)	0.01 (0.06)	0.007 (0.005)	0.021*** (0.004)	0.16 (0.15)	0.06 (0.31)
<i>Socio-economic controls</i>						
Average years of education	0.40 (0.24)	0.011 (0.008)	0.0002 (0.0007)	0.0006 (0.006)	-0.044** (0.019)	0.04 (0.04)
Proportion formal sector employment	-2.7 (2.9)	0.16 (0.10)	0.008 (0.016)	0.001 (0.010)	0.29 (0.26)	0.77 (0.49)
Proportion homes with iron roofs	-2.2 (2.2)	-0.00 (0.06)	-0.005 (0.004)	0.002 (0.005)	0.06 (0.13)	-0.27 (0.34)
Proportion households grow cash crops	-0.6 (1.1)	-0.01 (0.03)	-0.002 (0.003)	-0.001 (0.004)	-0.16* (0.09)	-0.30* (0.16)
Proportion households own cattle	-0.5 (1.2)	0.03 (0.07)	-0.003 (0.006)	-0.006 (0.006)	-0.14 (0.11)	-0.26 (0.32)
Proportion Catholic	3.4*** (1.1)	0.03 (0.08)	-0.002 (0.007)	-0.005 (0.007)	-0.28** (0.12)	-0.03 (0.38)
R ²	0.12	0.16	0.09	0.41	0.11	0.06
Root MSE	3.04	0.10	0.011	0.011	0.26	0.96
Number of observations	150	150	150	150	150	750

Table 2 Notes:

1) Huber robust standard errors in parentheses. Significantly different than zero at 90% (*), 95% (**), 99% (***) confidence. Regression disturbance terms are clustered at the zone level for Kenya, and at the ward level for Tanzania. Local ethnic diversity is ethno-linguistic fractionalization = $1 - \sum_i (\text{Proportion of Ethno-linguistic group } i \text{ in the population})^2$. Local ELF is diversity in all primary schools within 5 kilometers for Kenya, and for Tanzania, it is diversity at the village-level (based on the 2001 Village Council Survey). The data contains 84 primary schools in Busia, Kenya, and for 66 villages in Meatu, Tanzania, for all outcomes.

Table 3: Local Public Finance and Collective Action Outcomes (Tanzania)

Dependent variable	Coefficient estimate on local ELF
Panel A: Public Finance Outcomes, 2001-2002 Village Council Data	
Annual total local expenditures on all public goods projects, per household (USD)	3.9 (6.8)
Annual local expenditures on health and water well projects, per household (USD)	0.6 (1.2)
Total annual local tax collection, per household	0.9 (2.6)
Average number of completed local public goods project, per year	-0.33 (0.41)
Panel B: Public Finance Outcomes, 2001-2002 Household Data	
Average household spending on local taxes and school expenses (USD)	5.9 (10.7)
Panel C: Local Infrastructure, 2001-2002 Village Council Data	
Wells with normal water flow, per household	0.003 (0.007)
Average road quality (scale 1-4)	-0.2 (0.4)

Table 3 Notes:

1) Huber robust standard errors in parentheses. Significantly different than zero at 90% (*), 95% (**), 99% (***) confidence. Regression disturbance terms are clustered at the ward level. Ethno-linguistic fractionalization is defined as $1 - \sum_i (\text{Proportion of Ethno-linguistic group } i \text{ in the population})^2$. Local ELF is diversity in the village for Tanzania (based on the 2001 Village Council Survey, using Village Tax Register data). The data is for 66 villages in Meatu, Tanzania, for all outcomes.

2) The same socioeconomic controls as in Table 2 are included in all regressions: average years of education; proportion formal sector employment; proportion iron roofing at home; proportion cultivates cash crop; proportion cattle ownership; and proportion Catholic.

Table 4: Community Group and Village Meeting Activity (Tanzania)

Dependent variable	Coefficient estimate on local ELF
Panel A: 2001-2002 Village Council Data	
Total community groups, per household	0.018 (0.016)
Women's groups, per household	0.005 (0.004)
Youth groups, per household	0.009 (0.010)
Water groups, per household	-0.001 (0.008)
Village meeting attendance, per household	0.53 (0.82)
Panel B: 2001-2002 Household Data	
Proportion household survey respondents who are community group members	-0.22** (0.08)

Table 4 Notes:

1) Huber robust standard errors in parentheses. Significantly different than zero at 90% (*), 95% (**), 99% (***) confidence. Regression disturbance terms are clustered at the ward level. Ethno-linguistic fractionalization is defined as $1 - \sum_i (\text{Proportion of Ethno-linguistic group } i \text{ in the population})^2$. Local ELF is diversity in the village for Tanzania (based on the 2001 Village Council Survey, using Village Tax Register data). The data is for 66 villages in Meatu, Tanzania, for all outcomes.

2) The same socioeconomic controls as in Table 2 are included in all regressions: average years of education; proportion formal sector employment; proportion iron roofing at home; proportion cultivates cash crop; proportion cattle ownership; and proportion Catholic.

Table 5: Ethnic Diversity and Social Capital in Tanzania
(World Bank Household Survey Data, 1993 and 1995)

Dependent variable	Coefficient estimate on ELF (within the survey cluster)	Number of households	Mean of dependent variable (s.d.)
Panel A: Community group memberships			
Respondent community group memberships, total	-0.25 (0.20)	545	1.56 (1.50)
Respondent non- religious community group memberships	-0.32 (0.21)	545	1.13 (1.21)
Respondent religious community group memberships	-0.01 (0.12)	545	0.45 (0.61)
Panel B: Subjective measures of trust and cooperation			
Trust index	0.010 (0.033)	590	0.62 (0.16)
Index rating village unity	-0.011 (0.049)	590	0.67 (0.18)
Index rating village spirit of participation	-0.001 (0.027)	590	0.53 (0.24)

Table 5 Notes:

1) Huber robust standard errors in parentheses. Significantly different than zero at 90% (*), 95% (**), 99% (***) confidence. Regression disturbance terms are clustered. Ethno-linguistic fractionalization is defined as $ELF \equiv 1 - \sum_i (\text{Proportion of Ethno-linguistic group } i \text{ in the population})^2$.

2) The data are from the 1995 Tanzania Social Capital and Poverty Survey (SCPS) and the 1993 Tanzania Human Resource Development Survey (HRDS), both conducted by the World Bank. The SCPS sampled 87 rural clusters (subsets of villages) from the National Master Sample framework maintained by the Tanzania Bureau of Statistics. Socioeconomic controls include: household head age; household head sex; household head years education; household size; an indicator for residence in the village for at least ten years; average village consumption per adult equivalent (in 1993 Tanzanian Shillings); log(cluster population); cluster-level fractionalization in household head education level; cluster-level fractionalization in household head economic activity; household consumption per adult equivalent in 1993 shillings (linearly and squared); GINI coefficient; and regional controls. The number of household observations per cluster ranges between 7 and 21. There are 46 sample clusters in all regressions above, those with complete consumption expenditure and other socio-economic controls.

3) The normalized indices in Panel B range in value from zero to one indicate how the respondent subjectively rated trust, the spirit of participation in the community, or village unity. The trust index is the (normalized) sum of a series of trust question, regarding trust for various types of people.

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