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Transaction Costs Through Time: The Case Of The Orma Pastoralists in East Africa

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Institutions matter to new institutional economists because they directly affect cooperation.¹ They are our informal norms of behavior and the formal rules by which we live; they add predictability to human behavior. Because institutions affect the level of cooperation in society, they affect the gains we can reap by such cooperation, which ultimately affects the economic performance of society. The outcomes that result from different institutional arrangements may serve select individuals, or special interest groups, and do not necessarily serve the needs or best interests of society as a whole. In other words, governments do not always behave in ways that promote better economic performance. For their own reasons, people in the position to exert pressure on institutions may not push for changes that are good for society as a whole, but rather, for changes that shift distribution in their favor (Knight 1992, Ruttan 1989). Nevertheless, sometimes governments make institutional changes that do yield economic benefits, though these may be far from optimal, and by no means equally shared. This is one such story.

One way in which institutions matter to the economy is by affecting the costs associated with exchange of all sorts. Since Adam Smith, economists have argued that economic growth stems from the gains from trade and increasing specialization and division of labor. In other words, if one group can raise cattle more cheaply than its neighbor, which can raise rice more cheaply--they may both be better off specializing and exchanging. The insight from transaction costs economics is that such exchange may *not* be cost-saving if the transaction costs eat up all the savings from specialization. Transaction costs include the costs of gathering information, negotiating, monitoring, and enforcing property rights and contracts. These are incurred whenever people try to measure the prices and quality of the goods and services that they want, to monitor the performance of employees, to find trading partners, or to enforce property rights and contracts. When transaction costs are high they serve as a disincentive to exchange.

In the small-scale societies typically studied by anthropologists, most exchange occurs among people known to each other, and often linked through numerous cross-cutting ties.² As the substantivist economic anthropologists of the 1950s and 1960s (see especially Polanyi 1944 and Dalton 1967) so well articulated, and Granovetter (1985 and 1991) has recently elaborated, economic relations are embedded in social relations in such societies. Trust may be great, and exchange is less of a problem within the domain of one's own society and networks. Trust (based in part upon readily available information about reputations) and cross-cutting ties that facilitate enforcement (should a rare breach of contract occur), contribute to lowering transaction costs in such societies.

Problems typically arise in the developing world in the process of transition to larger spheres of exchange where individuals must deal with people outside their own ethnic group, often in exchange relationships with no repeat dealing. Under such circumstances altogether different institutions must be established to reduce information costs, ensure trust, and provide reliable enforcement mechanisms that help ensure the sanctity of contracts. One of the important functions of states is the supply of institutions that are recognized by the many sub-populations that make up the state. This is especially critical for new states in Africa which are made up of as many as several hundred recently autonomous societies with unique institutional structures. But governments cannot unify the institutional structure by fiat. While governments can control the formal codes of behavior--through the executive, the legislature, and the judiciary--these alone do not ensure low transaction costs. Also important are people's ideas about the justness of the formal code and the means by which

it is enforced, as well as the pattern of informal behavior, which may change far more slowly than the formal code (North 1993). Where state institutions are found wanting in the eyes of the population, a legitimacy problem arises that may seriously undermine the system and bring such discontinuity between the formal and informal norms of behavior that unpredictability is increased and high transaction costs result (see Cornell and Kalt 1989).³ The state may also have to use a "go slow" process in the gradual take-over of enforcement mechanisms if it desires to maintain legitimacy (North n.d.).

In this particular paper I am not addressing the supply of institutional changes offered by the state. That is, I am not examining why some measures were enacted by the government of Kenya and not others (for such a discussion of African institutions see Bates 1981 and 1989, and more generally on institutional supply see Ruttan 1989). Rather, here I treat these processes as exogenous, and examine the impact of given policies upon transaction costs among a rural pastoral Orma population in northeastern Kenya.

As has been noted elsewhere, measuring transaction costs is exceedingly difficult (see Wallis and North 1986, for a rare attempt). I do not attempt to measure transaction costs in this paper, but rather to build a strong circumstantial case for their reduction over time. Further, without direct measure of this crucial variable I can only speculate that the drop in transaction costs is the cause of the more favorable turn in terms of trade for the Orma. I maintain that no other explanation can as satisfactorily account both for the improvement in the terms of trade and for the increase in trade over time.

In the case study below I address the following questions: 1) What did policies more favorable to trade look like in the African context? 2) What might the consequences of such changes have been for economic performance? 3) And how might the economic effects have been distributed among the population? In the course of this analysis I focus specifically upon transaction costs, and examine longitudinal data from Orma pastoralists in Kenya.

The Case Study

The Orma are pastoral cattle, sheep and goat herders in northeastern Kenya. The Galole Orma, the subgroup with which this study deals, inhabit the geographic center of Orma territory, just west of the current district headquarters at Hola. The data presented here are of two types from two different periods. Those from the period 1920 to 1980 are based largely upon archival and oral history. For this period there are no household-level data, but some district-level data exist. Due to the absence of household-level data

it is not possible to address the effect of changes in transaction costs on producers as opposed to traders. The second dataset (1980 to 1987) derives from household economic data on many of the same households over time. These data allow us to see how changes in transaction costs affected Orma producers directly.

Like the rest of Kenya, the homeland of the Galole Orma (current day Tana River District) became a British Protectorate in 1895. This point was actually a low period for trade between the Orma and neighboring peoples. There was also only limited long distance trade going on within Orma territory, as the Orma had a reputation for fierceness that kept even the Arabs out of the interior. By the 1920s this had substantially changed, and Arabs were trekking up into Orma territory to buy cattle for cash. The Orma had to go themselves to trading centers to use the cash, however, as there was an absence of shops in the interior. In the 1930s this also changed. The first Orma trader (named Shambaro) began to bring goods to trade in the Galole Orma interior.

Shambaro worked as an agent for Arab traders in the south. He took trade goods such as salt, oil, and cloth from his agent in the south, moved them north by canoe up the Tana, transferred them to donkeys, and trekked westward to the interior. There he exchanged his goods for cash and ghee, which he took back down south. In the 1940s trade increased as he opened his first permanent shop at Wayu. By this time, sugar, tea, and tobacco were significant trade items, as well as maize during times of drought. By this time he no longer needed to go in person to get the trade goods; Shambaro was minimally literate and his Arab agent sent goods at written request. Credit was now playing a significant role in his business. By 1945 Shambaro also began to receive a lot of cash from his agent, with which he bought cattle in the north. This represented a standard Islamic partnership known as the *commenda*. By 1948 Shambaro had purchased the first African owned vehicle in the district, which he used for his trade; by the late 1940s he also had three shops. Obviously, the volume of interior trade had increased substantially over this period.

Why Did Trade Increase?

It is often argued that colonial trade in Africa was spurred by taxation necessitating cash, and not by the advantages of trade. In fact there is ample evidence to support this position in many parts of Africa. The hut tax, for example, was imposed and manipulated in many areas in order to drive more African labor into the market to work at cheap wages on white farms (see, for

example White 1987). Among the Orma, however, the argument that taxes spurred exchange does not appear to hold up so well. While trade was increasing significantly after 1920, taxes were actually declining (Ensminger 1992). A second explanation for increased trade is that the costs of trade itself were declining, thus providing an increasing economic incentive to specialize and exchange. I shall argue that many different factors contributed to the declining costs of exchange, including conversion to Islam, literacy, standardization of weights and measures, improvement in roads, telecommunications, and the presence of more and better qualified government civil servants.

The first major boost to trade may well have been conversion to Islam.⁴ The Orma converted to Islam between 1920 and 1940. Shambaro, the first Galole Orma shopkeeper, was a very early convert. Islam may well have helped ensure good faith between Shambaro and his Muslim agents. Among other things, it represented an overarching set of institutions (legal and otherwise) to which both parties agreed to abide. One such set of institutions was the *commenda* partnership arrangement used by Shambaro from the earliest days. As elsewhere all over the Muslim world, this arrangement allowed for a partnership between one party who fronted the capital and the other who carried out the actual trading, with an agreed upon division of the profits. This facilitated the extension of considerable credit to Shambaro, thus providing him with a competitive edge against other traders who merely visited the area and were not resident there.

A second factor facilitating trade was literacy. Shambaro was minimally literate, but even this was an enormous help to his business. As a consequence, he was able to communicate with his suppliers in writing, thus reducing the necessity to travel in person each time he needed goods and cash. This meant that he could spend a greater amount of time on site managing his shops. Indirectly, literacy thus facilitated specialization in the division of labor by allowing Shambaro to focus on sales transactions while lower cost hired labor transported the goods.

Other factors, such as the standardization of weights and measures, improvement in roads, telecommunications, and upgrading of civil servants, also had an effect on declining transaction costs and fall into the sort of categories we usually associate with transaction costs. The first such measure was the imposition of standardized weights and measures in 1937. The annual district reports give clear evidence of how great the impact of this legislation was in the area. Prior to the legislation, we find the following in the Tana River District Report of 1936.

Yet another cause of discontent is that all produce, again excepting cotton, is sold by volume, and the measure used is varied to suit the shopkeeper's pocket. If a standard Government "pishi" [8 lbs.] were introduced, it would be enthusiastically received by the cultivators and better class traders, who are constantly petitioning for the standardization of the measure (TRD Annual Report 1936, 18).

In 1937 and 1938 respectively, we find the following two reports indicating the positive impact of the weights and measures legislation, which was passed in 1937.

The most important piece of legislation immediately affecting the natives was the application of the Weights and Measures Ordinance to the Coast Province and the establishment of the half-bushel measure and subdivisions thereof as compulsory dry measures. This was very popular with the natives and with the better class of traders, as the situation had become chaotic with each person using his own measure, with no two measures holding the same quantity (TRD Annual Report 1937, 5-6).

The introduction last year of the Standard Dry measures, the use of which is compulsory, has proved of considerable benefit to the natives, and also to the less intelligent traders, in preventing frauds.

The traders have willingly brought their measures to be stamped, and although some illegal measures may still be in use, their use is becoming increasingly risky (TRD Annual Report 1938, 14-15).

Another major issue affecting transaction costs is roads. Poor transportation adds not just to the cost of delivering goods, but also to the costs of information. The first truck did not arrive in the district until 1929 and then could not really penetrate due to the absence of roads. By 1955, however, there were 11 trucks owned by traders in the district. As in all exchange, the value of information is crucial in cattle marketing. Arguably this is even more true in the case of cattle trading than it is for agricultural commerce. Information about supply and demand and price are crucial prior to moving cattle, but so also is information about cattle diseases. Great losses may be associated with moving cattle to market over long distances only to learn upon arrival that all buyers have left, that the price is far lower than expected, or that the area is infested with a cattle disease. Transportation enormously facilitates the rapid dispersal and competitive flow of information.

Similarly, telecommunications provide the same information benefits to trade as those associated with roads.⁵ One example of the costs of poor communications comes from the district records of 1954. It describes the costly effects of a garbled telegram.

The wire as sent reported an epidemic among Somalis at Walu, but as received read as the report of an epidemic among cattle at Wayu. This led to a considerable dislocation of the stock movement and a special trip by air to be made by the Provincial Veterinary Officer to contact the writer on safari and straighten out the tangle (TRD Annual Report 1954, 19).

Over the course of the entire period from 1923 to 1987 there were substantial improvements in telecommunications.

A final area of development in the district that arguably contributed to the declining costs of exchange was the posting of increasing numbers of civil servants and agricultural specialists. Most certainly, government institutions and personnel can also have the effect of increasing transaction costs, and many such cases could be cited for Africa. Marketing boards, corrupt licensing bureaus, and overregulation are typical examples (see Bates 1981). Nevertheless, many of the measures undertaken by the government in Tana River District appear to have actually had a net beneficial effect on local exchange. Among these one can point to widespread cattle inoculations, locust eradication, and the development of centralized auction houses.

Further evidence that these declining transaction costs were correlated with an increase in trade comes from the data on the number of traders working in the district. The Tana River District reports of 1923 (pp. 5-6) and 1929 (p. 5) complain of too few traders in the district and the presence of a monopsony. The TRD report of 1949 (p. 13), however, complains of too many traders.

Data on Transaction Costs for the Period from 1980-1987

The author conducted fieldwork among the Orma from 1978 to 1981, and again in 1987. Large quantitative household economic surveys were carried out on both occasions and provide considerable data on many of the same households in 1980 and again in 1987. Both surveys were of the population living in the exact same locality, with controls built in to account for biases associated with population movements in and out of the area (for more details see Ensminger 1992).

Over this period a number of significant changes occurred which affected transaction costs. For the first time, the chief began to notarize legitimate livestock traders and the ownership of stock. While seemingly insignificant, this procedure was aimed at reducing the sale (and possible forfeiture) of stolen cattle. Police forces in the area were also increased fourfold in an effort to reduce the level of banditry, a chronic problem in this sparsely populated and difficult to patrol area. The government continues to regulate weights and measures, including annual validation of all instruments.

One of the most dramatic changes over this period was the opening of the first bank in the district. While the bank has had little impact yet on the availability of credit to small-scale producers, it has had a major impact upon the way in which business is carried out in the district. Its presence reduces the need to carry large quantities of cash within and between districts. This obviously reduces the security risk of vulnerability to armed bandits, a real threat in the district, especially prior to the increased police presence.

Between 1980 and 1987 there were marked improvements in the roads and bridges in the district, with much construction on-going in 1987 that would directly impact the Orma in the interior. Bridges under construction over a major river that floods the territory twice yearly and cuts off the interior for weeks at a time will enormously facilitate the stocking of local shops in the interior during the rainy season. They will also allow the cattle traders better access to the area during the period when most cattle sales take place (during the rains). With every landrover and lorry that gets through in the wet season arrive 10 to 30 people also bringing information from all corners of the district.

During the 1980s the district headquarters significantly upgraded their telephone exchange, linking many government departments and local shops for the first time. It is no longer necessary now, as it was in 1980, to send a runner each time a message needs to be delivered between the administrative offices and the commercial district (as much as 4 kms. away). Communications with the outside were also vastly improved, better affording communications between merchants and their wholesalers outside the district.

The Kenyan government's national plan to decentralize the administration (District Focus for Rural Development) also had significant effects upon the local civil service. The central government did not increase the size of the civil service so much as they set about posting people out of the capital and into the rural countryside. This decentralization initiative resulted in an increase in staff and upgrading of the level of virtually all government ministries in Tana River District over this period. This included the veterinary office, health clinics, schools, and the development office. These staffing

increases were apparent both in the district headquarters, and even more so in the rural hinterland where the Orma live and herd their cattle. For the first time a district veterinary officer was actually posted to an Orma town (where the cattle are) rather than the district headquarters. Health, teaching, and civil service staff similarly increased. Another example was the posting of the first adult education teacher. The result of initiatives like these is seen in the data on school enrollments. In 1980 4% of the school-age female population were attending school, while 26% of the boys were attending. The comparable figures for 1987 were 30% and 50% respectively. These are enormous gains over only a seven-year period. It now remains to be seen what effect these factors that reduced transaction costs have had on the economic fortunes of Orma producers.

Effects of Declining Transaction Costs on Orma Producers

The best data available to document the effect of declining transaction costs upon Orma producers comes from the data on terms of trade over time for 1923 to 1987. These data indicate that traders themselves did not consume all of the benefits of declining transaction costs; some filtered down to Orma producers. In Figures 3.1, 3.2, and 3.3 I present data on the terms of trade for cattle, the key commodity produced for sale, against the major consumption items (maize, rice, sugar, cloth, paraffin and cooking oil).

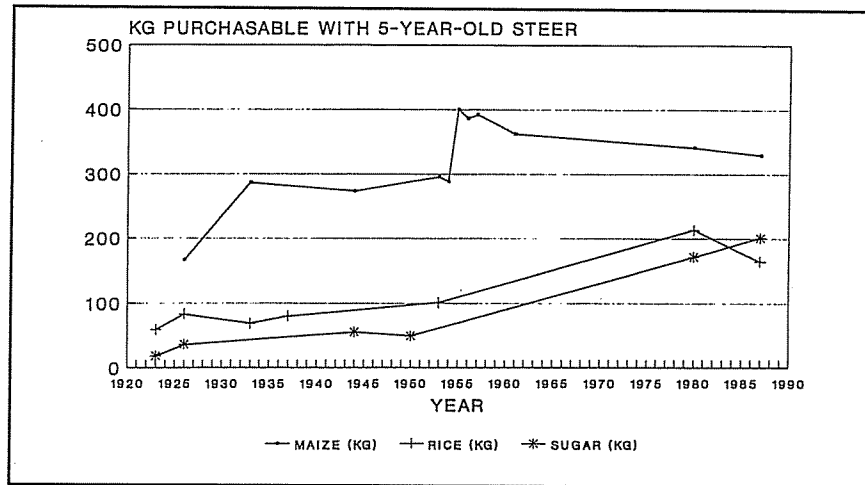


Figure 3.1: Terms of Trade: Cattle, Maize, Rice, and Sugar

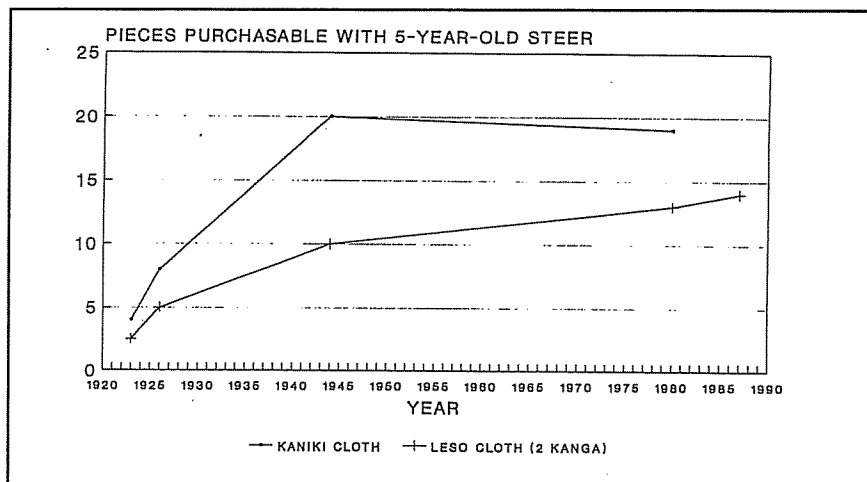


Figure 3.2: Terms of Trade: Cattle and Cloth

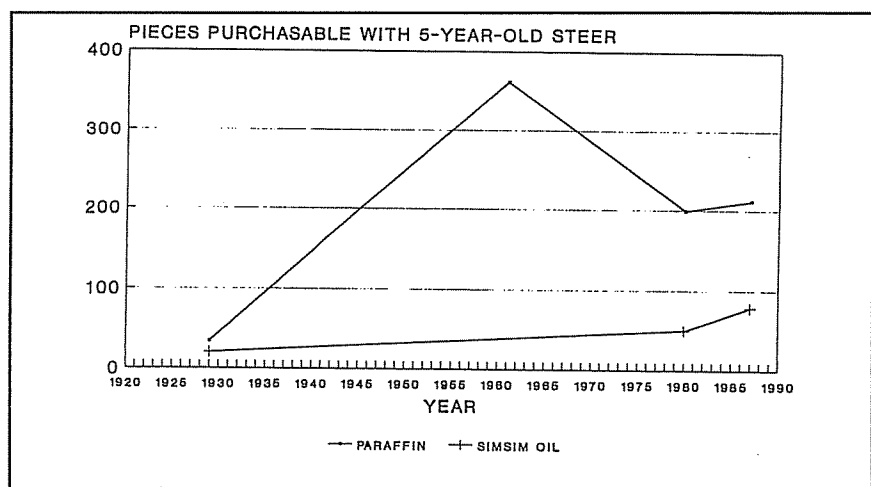


Figure 3.3: Terms of Trade: Cattle, Paraffin, and Oil

The figures show graphically the increasing quantities of each commodity that could be purchased with a five year old steer (the major marketable item

of the Orma). In all cases, there have been substantial gains in terms of trade for the Orma over time, from 1923 to 1987.

For the period from 1980 to 1987 we have far more detailed data based upon a household survey of 52 households (in 1980) and 90 households (in 1987) from exactly the same area. In Table 3.1 we see the data on terms of trade weighted by the percentage of production and consumption for each commodity in actual household budgets. Here we are able to weigh the cattle sales by the actual percentage of sales in each age group, and figure the inflation rate on all purchased commodities weighted by the percentage of the budget spent on each. While one notes some loss in terms of trade with regard to particular commodities (a slight loss against maize flour, and a major loss against rice), the overall data again show a marked gain for the Orma between 1980 and 1987. While their major source of income (cattle) shows a gain of 116% for the period, their basket of consumption goods shows an overall increase in cost of only 93%. All food commodities together show even smaller increases, at 89%. Their net gain overall in purchasing power is on the order of 23%.

Commodity	1980	1987	% increase, 1980-7
Price to Orma producer			
Cattle: 1-2 years	366	787	115
Cattle: 3-4 years	753	1741	131
Cattle: over 5 years	988	2072	110
All cattle sales ^a	NA	NA	116
Price to Orma consumer			
Sugar (1 kg)	5	9	80
Maize flour (2 kg pkt)	5	11	120
Tea leaves (50 grams)	1/50	1/90	27
Simsim oil (700 ml)	12	16	33
Rice (1 kg)	4	11	175
Kanga cloth	65	130	100
Paraffin (700 ml)	3	6	100
All food	NA	NA	89
All commodities ^b	NA	NA	93

Note: The exchange rate for Kenyan shillings in 1980 was 8 shillings to the dollar and in 1987 it was 16 shillings to the dollar.
^a Weighted by the proportion of sales in each age category.
^b Weighted by the proportion of the household budget spent per commodity.

Table 3.1: Terms of Trade for the Galole Orma at Wayu (in Kenyan shillings), 1980 to 1987

A final piece of data is perhaps the most compelling of all in making the case that significant reductions in transaction costs occurred between 1980 and 1987. It is typical for all households, but especially the poor, to take food

from the local shops on credit throughout the dry season and sell cattle to the shopkeeper when the rains begin in order to clear the debt. Economic necessity drives most poor households to engage in such debt bondage. Interest rates for the two periods (1980 and 1987) were calculated comparing the difference between the price one receives for cattle sold to the local shop to clear one's debt, compared to the price received for cattle sold to outside traders to whom one was not indebted. In 1980 the effective interest rates were 37% for one season, or approximately 87% for the year. Surprisingly, in 1987, the effective interest rates were 5.6% per season, or approximately 12% per year. In both cases, these rates are net of inflation. North (1990) argues that interest rates are one of the most telling indicators of transaction costs, and this being the case, these data appear consistent with the other data that the trend for real economic benefits accruing to the Orma from declining transaction costs begun in 1923 was continuing in the 1980s.

Transaction Costs and Monopoly Rents

While one could argue that even small-scale producers gained from declining transaction costs over time, there certainly were greater advantages realized by some individuals. Each change in government policy and institutions, including those reducing transaction costs, also potentially opens a window of opportunity for the collection of monopoly rents. Beginning with Islam and literacy, we find that in 1920 few Orma had converted, and fewer yet were literate. Thus, Shambaro was in a decidedly advantageous position. With time, these advantages eroded as more and more people shared these qualities.

Next came the standardization of weights and measures. Initially, the high costs of officially sanctioned weights and measures may have kept some people out of trade, thus giving an advantage to those already established and those who could afford the costs of such overhead.

Roads and telecommunications offered advantages to those who happened to be in the right place at the right time, or who were influential enough to see to it that roads and telegraph and telephone lines passed their way.

Perhaps more than any other advancement, transportation confers enormous gains selectively and has tremendous exclusionary power as a consequence of the great expense of purchasing and maintaining a vehicle. Until at least 1987, no African traders except Shambaro have been able to crash this barrier. While even those who do not own vehicles benefit from the greater flow of information resulting from increased traffic, clearly those owning the transportation have greater access. Lack of access to transportation may well

be the main reason that Africans have not been able to break the Arab monopsony on wholesale marketing in the district.

Finally, the greater presence of civil servants, government licensing, and regulation provide more opportunities for bribery and favoritism. It is likely that those who begin with greater financial resources and influence will attempt to use new government institutions to perpetuate such influence (see Knight 1992). The more successful they are, however, and the more profitable their enterprise, the greater the incentive for other entrepreneurs to break into their territory. But this may take a long time once a powerful player is entrenched.

Formal Versus Informal Norms of Behavior and the Problem of Legitimacy

One of the least researched areas to date in transaction costs analysis is the interface between formal and informal norms of behavior. Changes in government policy are likely to have significantly less success in reducing transaction costs if informal norms of behavior are not consistent with the formal codes and if ideological support is not also present. One of the reasons that the policy changes discussed in this paper were successful in reducing transaction costs is because they were imposed gradually, and usually not before the majority of the population were prepared to accept them.

The two areas where government institutions have been resisted to some degree are education and the transfer of legal affairs from the council of elders to the state. These two issues are worth examining briefly because the manner in which they were handled has implications for the bridging of formal and informal norms and the creation of legitimacy.

Education was controversial from its very origins in the district in the early 1950s. However, at that time it was not compulsory, so after some airing of grievances with the then chief, the elders who were opposed to it tolerated its presence so long as they could refuse to send their own children. The main problem for the opposition elders was that male children were crucial for cattle herding, and they perceived education as a threat to their livelihood. Education became controversial again in the 1970s when primary school became compulsory in Kenya. However, such a stringent change of policy was *not* implemented among the Orma, where only 26% of boys and 4% of girls attended in 1979. To have insisted upon compulsory schooling overnight would have created severe disruption of the economy and of ideological support for the state. Instead, the chief *gradually* increased pressure on

households he knew could afford to send some children to school. The result was a vast increase in enrollments by 1987. What is more, by 1987 many of the very same elders who were outspoken against education in 1979 then viewed education as the future.

A similarly slow process has unfolded as the chief (a government civil servant) increasingly hears more and more legal disputes formerly brought before the elders. This process has played itself out fairly smoothly and naturally without need of proclamations mandating the transition. As people learn the biases of the state courts versus the elders, those disputants who perceive that the state favors their side are likely to choose to have their cases heard there rather than by the elders. Eventually, precedent dictates that all cases of a given nature are handled by the state. In this way the state has managed to assume most legal authority in the area.

One reason that the other topics discussed in this paper have not been particularly controversial for the Orma and have met neither ideological resistance nor intransigent informal norms, is that most did not directly have obvious redistributive consequences at the time of implementation. It is often redistributive consequences that engender strongest opposition. So, for example, the fact that roads and telecommunications benefit some more than others may not have been the focus of perception, so much as the fact that all would benefit a little bit from cheaper and more frequent transportation and a more regular supply of goods to the local shops.

Not all institutional changes affecting transaction costs are as free of controversy. One subject not discussed here, but one almost always accompanied by opposition, is changes in property rights.⁶ Since property rights so obviously redistribute resources, they are almost invariably the subject of contention, and are very difficult to alter. This is a particularly crucial area for more study of the relationship between formal and informal norms and legitimacy.

Conclusions

The importance of transaction costs for development can certainly be exaggerated; they are not the entire solution to poor economic performance. However, as I hope to have demonstrated in this study, they do represent a legitimate and important area of attention for development planners and their reduction can yield significant economic benefits. One of the lessons of transaction cost analysis is that there is no such thing as *the* optimal set of economic institutions. In the absence of legitimacy and compliance through

informal norms, the most "perfectly" designed institutions yield poor results. For this reason, transaction costs research is a natural arena for the combination of economic and anthropological methods and understandings.

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Notes

1. The research on institutional change by new institutional economists (particularly that of economic historians such as Douglass North 1981, 1990 and Avner Greif 1992, 1993) has direct relevance to the concerns of anthropologists. Modifications of the perspective (such as that of Jack Knight 1992) that address the issue of distributional consequences and the role of power in institutional change also have considerable relevance for anthropologists. See Nabli and Nugent 1989 for a brief summary of the applications of the new institutional economics to development concerns.
2. See Pollak (1985) for a discussion of the economic limitations of this form of exchange.
3. Shipton (1988) provides a perfect example of informal practices and norms undermining formal codes in his discussion of Luo land tenure practices which undermine the Kenyan government's policy of land privatization.
4. For a detailed discussion of this argument see Ensminger (1992) and (n.d.).
5. See Norton (1992) for a discussion of the importance of telecommunications in reducing transaction costs.
6. For a discussion of changes in Orma property rights see Ensminger and Ruttan (1991) and Ensminger (1992).