Maasai socio-economic conditions: A cross-border comparison

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Abstract

A single round household survey was conducted between October 1997 and May 1998. Information was collected on 1,545 Maasai households in Kenya and Tanzania using a standardised questionnaire. These data represent the first large-scale, cross-border comparable survey of socio-economic indicators for the Maasai. The structure of the study is similar to that of a natural experiment: one ethnic group living in two very different nation states. The survey results describe a current "snapshot" of Maasai livelihoods. Living arrangements are described, at both the household (*olmarei*) and multi-household (*enkang*) level, together with changes in housing type. The role of cultivation, transhumance and employment are described, including a consideration of the prevalence of murranism (warriorhood). The implications of rising levels of sedentarisation and cash crop production for Maasai economic diversification are explored. Participation by Maasai within the tourism industry is extremely low, despite the proximity of Maasai to major international tourist destinations in East Africa. Levels of formal education are presented, and show a marked sex bias in completed primary school education in both countries, with far fewer women than men having attended school.

KEY WORDS: Maasai; Ngorongoro Conservation Area; Kenya; agro-pastoralism

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Maasai socio-economic conditions: A cross-border comparison

The Maasai of Kenya and Tanzania are one of the best-known pastoralist populations in the world, indeed Spear suggests "Everyone 'knows' the Maasai" (1993: 1). The economic and social conditions of the Maasai have changed throughout their history, in response to a myriad of factors operating over a variety of spatial and temporal scales. In recent decades the influence of nation states, monetisation of the traditional economy, formal education, land tenure changes and demographic factors have all played a part in shaping the current socio-economic situation of Maasai in Kenya and Tanzania.

As neighbouring nation states, Kenya and Tanzania lend themselves readily to studies that "compare and contrast". The similarities are striking: a common climate; similar natural resource bases; rapidly growing populations of small subsistence farmers; common cultural groupings; and, historical British colonial rule. The differences are equally remarkable. Post-independence Kenya has (until very recently) pursued policies that emphasise economic growth over equity, private sector development, receptivity to foreign private investment, preservation and extension of colonial institutions, and the maintenance of close ties with Britain. Tanzania, on the other hand, has been typified by socialism, self-reliance, a more equitable distribution of the country's wealth, state intervention in and ownership of the economy, a reduction in reliance on agricultural exports, and forced villagisation (*ujamaa*) of the rural population (from Barkan, 1994).

The national-level divergence in policies between socialism in Tanzania and capitalism in Kenya are highlighted within Maasailand. In Kenya, the impact of the Group Ranch programme has had profound implications for Maasai access to land. The Group Ranch concept was rooted in post-Independence Kenya and is based on the premise that if livestock production could be raised, bringing it into the commercial sector, then any wealth generated could be ploughed back into

development of semi-arid areas (Evangelou, 1985). Changing land tenure towards individual or group ownership was seen as key in the commercialisation of pastoral production systems. Initially, the policy involved the registration of small (10 km^2) areas of land to individual Maasai. However, as Homewood points out "these were neither ecologically nor economically viable for livestock production" (1995:338). The natural successor to the original plan was to parcel up land into larger blocks, to be held by co-operatives of herd owners. Recently, however, the group ranch system has been subject to subdivision of land in a move towards individual land ownership, in line with Kenyan government policies (Grandin, 1988; Rutten, 1992; Homewood, 1995).

The development of Ranching Associations in Tanzania took place at the same time as the Group Ranches in Kenya. However, that is where the similarity of these policies ends. Each ranch had a coverage of thousands of square kilometres of previously communal land and the programme was carried out with large overseas financial and technical assistance under the auspices of the Tanzanian government. In spite of laudable rhetoric to integrate Maasai practices and objectives, the project involved "little or no consultation with Maasai on geographical boundaries or specific aspects of development" (Homewood and Rodgers, 1991). The result was that only one Ranching Association achieved the aim of ensuring title to the land. Whereas the Group Ranches in Kenya have had a lasting impact on the tenurial composition of Kenyan Maasailand, in Tanzania the net result was viewed by the Maasai as "just one more case in a long history of broken promises" (*ibid*).

The Tanzanian data for this study were collected in the Ngorongoro Conservation Area (NCA). NCA occupies a unique position in Tanzania, indeed "other laws governing the lives of Tanzanian people are subsidiary to those of the NCA" (Homewood and Rodgers, 1991). The history and objectives of the NCA have been well documented elsewhere (Arhem, 1985; Thompson, 1997). NCA represents a unique experiment in joint land use, between conservation, tourism and agro-pastoralism. The balance between human occupation and wildlife concerns are continually being

reassessed, the result being increasing levels of tension and potential conflict between wildlife managers and resident Maasai. Currently of concern, for example, is the issue of whether or not cultivation should be permitted within the boundaries of the NCA. An uneasy truce exists at the moment, with small-scale subsistence agriculture allowed, provided that ploughs are not used. Issues in NCA extend beyond its boundaries, with interested parties including the Ngorongoro Conservation Area Authority (NCAA), local NGOs, national government, international agencies and tourism. These thumbnail sketches demonstrate the heterogeneous context of Maasai, and the wider socio-economic setting within which most Maasai live.

The design of this study can be thought of as a natural experiment. That is, in order to conduct a representative survey of the Maasai, it was necessary to collect data in both Kenya and Tanzania. A situation therefore arises of one major controlling factor (ethnicity) whilst varying other factors, most notably nation-state. The use of the term “experiment” is perhaps something of a misnomer in the social sciences: it implies total control of dependent and independent variables. In a social science setting, however, there are many confounding factors, and perfect “control” is absent. This caveat notwithstanding, given that the opportunity arose for an approximation to a natural experiment design, it is still a useful (if inexact) framework for analysis. It is an approach worth pursuing because, to echo the words of Hill and Randall, "Natural experiments in the human sphere are not all that common and the chance to look at the behaviour of the same ethnic group living in different circumstances…is too valuable to waste" (1985:39).

This study describes the results of a large scale (n=1,545) household survey of Maasai[2] in Kenya and Tanzania. The data were collected using a standardised questionnaire adapted to a Maasai context and represent the first cross-border directly comparable set of information on current

[2] Here, Maasai refers to the broadest conceptualisation of " Maasai" as an ethnic group, using Hutchinson and Smith's (1996) definition of an ethnic group. The debate surrounding "Maasainess" (Spear and Waller, 1993) is noted, and implicit throughout the study. Sectional differentiation was not incorporated into the study as members of differential traditional unit live mixed together in the geographical areas of the study e.g.: Salei and Ngorongoro Maasai in NCA.

Maasai socio-economic conditions. The strength of the survey data presented here is their comparability and size. The major limitation is the shallowness of information that can be gathered using a survey. The purpose of this description is to complement more detailed, focused studies of Maasai livelihoods (for example, Galaty, 1981; Helmut, 1995; Ibrahim and Ibrahim, 1995; Bekure *et al*, 1991), not replace them. The data must be contextualised within the wider project[3] within which they were collected. The project was multidisciplinary, concerned with the long-term outcomes of different land-use policies on environment, wildlife and socio-economic indicators in the Serengeti-Mara ecosystem in Kenya and Tanzania. It was as part of this wider research project that the current data were collected.

As highlighted by Spear "'Maasai' and 'pastoralism' have become so closely linked in the historical and ethnographic literature...that Maasai are commonly viewed as prototypical pastoralists" (1993:2). To read literature relating to the Maasai, one would be left with an unclear idea of how they currently derive their living. Maasai are variously referred to as pastoralists (Jacobs, 1979; Hedlund, 1980; Holland, 1987; Grandin *et al*, 1991; Sindiga, 1992; Talle, 1994), "pastoralists (with) some degree of mobility" (Galaty, 1992), a "specialised pastoral community" (Bonte & Galaty, 1992), "nomadic pastoralists" (Kipuri, 1998), as including "sedentary agriculturists...[and]...nomadic pastoralists" (Asiema and Situma, 1994). Diversification within traditional Maasai economies, particularly in Kenya, has been subject to detailed studies (for example, Rutten: 1992). The aim of this study is therefore to broaden our understanding of contemporary aspects of Maasai livelihoods and lifestyle, in both Kenya and Tanzania, using a comparative analysis of survey data.

The survey results provide a current "snapshot" of Maasai livelihoods. Data were collected on a wide range of socio-economic variables, chosen specifically to capture both the changing and

[3] "Impacts of land use policy on environment, wildlife, demography and socio-economic indicators in east African savannas: the Serengeti Ecological Unit", funded by the European Union Grant No. IC18-CT96-0070

enduring aspects of Maasai livelihoods and human capital[4]. These variables may be divided into four main groups. First, household organisation is outlined, forming the first comparative study of Maasai household size and arrangement. Second, an attempt is made to sketch contemporary living conditions of Maasai households using housing type and drinking water source. Both variables are strongly linked to outcomes of morbidity and mortality, and provide a proxy for the context of Maasai living conditions. Third, Maasai livelihoods are described using a combination of indicators: practice and type of cultivation, practice of transhumance, and occupation. These data allow for both a description of contemporary Maasai economic activity, and for an assessment of the extent of diversification both within and between Kenya and Tanzania. The free-answer response to occupation also allows for a detailed consideration of two further specific aspects of livelihood: the participation of Maasai in tourism and the prevalence of *murranism*[5]. *Murranism* is a traditional occupation of Maasai men, and measuring it provides an important tool with which to assess change within Maasai society. Finally, as a key component of current and future human capital, education levels are reported. Where appropriate, indicators are presented with reference to gender in order to highlight the different contemporary experiences of Maasai men and women. Before describing the results of this study, the next two sections describe the broad-scale demographic context of Maasai and the methodology used to collect the data.

[4] It is acknowledged that livestock ownership is the measure of wealth most commonly used by Maasai themselves. However, data on livestock ownership were not collected. Reliable livestock data are extremely difficult to collect in a large-scale survey, and it became apparent during the pilot study that the collection of household livestock ownership would jeopardise the entire household survey. Intrinsically linked to levels of livestock ownership is household size, expressed in terms of numbers of wives and children per husband. These data have been reported fully elsewhere (Coast, 2000).

[5] A *murran* (warrior) describes a stage in a youth's life when he has been circumcised, and a new age set produced. Over a period of time, all of the boys (who have usually reached puberty) are circumcised and incorporated into the newest age set. Circumcised young men are junior warriors, a traditional period associated with the establishment of *manyattas*, a camp to protect their neighbourhood. For detailed descriptions, see for example Spencer, 1988.

Maasai total population

Both Kenya and Tanzania conduct national censuses, the most recent being 1999[6] and 1988[7], respectively. However, in terms of estimating the total number of Maasai, only the Kenyan censuses collect ethnicity data as part of the census schedule. An explicit question on ethnicity has not appeared in recent Tanzanian censuses, therefore it is not possible to estimate accurately the number of Tanzanian Maasai.

Maasai are numerically the largest single group of pastoralists in Kenya[8]. In Narok and Kajiado, the "Maasai districts", the proportion of population accounted for by Maasai has declined substantially over the last 30 years, due to in-migration by non-Maasai into Narok and Kajiado. Indeed, by 1989, Maasai accounted for less than half of the district population in Narok (Table 1)[9].

Table 1 Here

In Tanzania, the NCAA has carried out periodic "headcount" surveys of total population in the area. A common feature of all of these censuses is the poor reliability of the data, due to both internal and external factors. For example, Kijazi *et al* state that the 1987 census was "conducted at a time when relationships between the NCAA and NCA residents were particularly strained…. Previous talk of the feasibility of removing the Maasai from the NCA entirely are also likely to have discouraged NCA residents from accurately reporting total numbers in the NCA at this time" (1997:174). The most recent NCAA census enumerated 51,621 individuals, of whom it is estimated that over 97% are Maasai (NCAA, 1999).

[6] To date, however, the 1999 Kenya census data are unavailable, therefore figures from the 1989 census are used.
[7] The 1998 Tanzanian census was postponed, and has yet to be carried out.
[8] Grandin states that "The Maasai are the second biggest group of pastoralists in Kenya, after the Somali" (1991:21). The Kenyan census data refer only to Maasai whereas Somali are reported using a variety of sub-groups including Gosha, Hawiyah, Ogaden, Ajuran, Gurreh and Degodia.
[9] Although no data are yet available from the 1999 census, it is expected that Maasai will soon account for less than half of the Kajiado district population.

Methodology

A single round household survey (SRHS) was conducted between October 1997 and May 1998. Information was collected on 14,928 individuals at three main sites using a standardised questionnaire administered at the household level by locally recruited and trained Maasai enumerators. The absence of complete and up-to-date sampling frames prevented systematic scientific sampling of the population. Study sites were chosen specifically to reflect the range of experience of rural Maasai[10].

Map 1 Here

An enumeration unit must have some real, tangible meaning for the researcher, enumerator and respondent. The choice of enumeration unit is therefore a compromise between one that is ethnographically specific and one that conforms to some standardised schema. The standard United Nations definition of a household as "One or more persons who make common provision for food and other essentials for living" was inappropriate in a Maasai context. If the provision of food in a Maasai context is examined, then a complex web of normative food-sharing practices is revealed. For example, in a polygynous family each wife prepares and cooks food (such as maize porridge) in her own house (*enkaji*), for consumption by herself and any dependants. Except in special circumstances such as sickness or preparation for a ceremony, co-wives do not make common provision for cooking. There is no single word in Maa that corresponds precisely to "household". More often, the term *olmarei* (family) is used, and it is clear from the context that it is the "household" that is meant.

Ideally, the primary sampling units (in this case the household) should be randomly selected. However, a scientifically designed random sample assumes the existence of a complete and correct

[10] The majority of the Maasai population in both Kenya and Tanzania is rural.

sampling frame. Neither in Kenya[11] nor in Tanzania[12] were such sampling frames available. Therefore, a geographic area was identified, and all sampling units within that area were interviewed, until the desired sample size was achieved. The following four sections describe the substantive results of the SRHS.

Living arrangements

The Maasai *enkang* may be described as a joint residential unit composed of several households (*olmarei*). Homewood and Rodgers describe the *enkang* as the "Maasai ideal", allowing for co-operation over grazing and herding decisions. The rationale for membership of an *enkang* is not necessarily based on familial affiliation and the overall composition may change periodically.

Early studies observed *enkang* to be composed of 6-12 households (Jacobs, 1965), but there appears to be an increasing tendency towards one household *enkang*. This trend has been noted by several authors (Potkanski, 1993; Grandin, 1991; Ndagala, 1982). Potkanski suggests that the process towards single-household *enkang* is more common among wealthier families as a "result of ecological factors, since the number of animals staying together in one homestead should not be too many" (1993:31), together with an increasing tendency towards the "individualisation of social life" (*ibid*), especially for wealthier families. Grandin (1991) and Rutten (1998) regard individual land ownership and greater levels of sedentarisation as crucial in facilitating the trend towards fewer

[11] The national sampling frame, derived from census returns, and maintained by the Central Bureau of Statistics was unavailable for this study (Central Bureau of Statistics, Pers. Comm.). An alternative sampling frame was investigated, that of the registers of the Group Ranches. However, these lists were drawn up at the time of the formation of the Group Ranches and are now obsolete. Further, they only ever contained the names of the registered members (men) rather than a complete listing of household members. The highly political nature of current access to Group Ranch land would have made the construction of more up-to-date lists extremely difficult.

[12] Initially in Tanzania it was hoped to be able to use the "10 cell" system introduced during *ujamaa* whereby each registered village is composed of 10 units, each with its own leader. Theoretically, lists of reach 10-cell leader should provide an up-to-date list of village residents, permitting systematic sampling. However, when this approach was tested in Endulen (NCA) during the pilot study, it was found that the majority of the lists was out of date and poorly maintained. Further, the number of households per 10-cell leader varied greatly, due to a lack of candidates to be 10 cell leaders.

households per *enkang* in Kenya. Table 2 summarises all of the existing information available on the number of households per *enkang*.

Table 2 Here

The influence of changing external influence on *enkang* size may be seen clearly in Tanzania. For example, *ujamaa* caused a decline in average *enkang* size in the 1970s as people were moved to comply with the policy of permanent settlement. Homewood suggests that the later reversal of this initial declines implies that "families…split up to fulfil the imposed requirements of *ujamaa* village membership, while retaining access and rights to a broad range of pasture resources, then reverted when the pressure relaxed" (1995:342). The SRHS collected information on *enkang* composition, allowing for the first time a comparable cross-border survey on *enkang* size (Table 3).

Table 3 Here

At the country level, Tanzanian *enkangs* are composed of more households than in Kenya, with a mean size of 4.1 and 2.6 households per *enkang*, respectively. This overall pattern concurs with the extant data, summarised in Table 2. At both Kenyan sites, single-household *enkang* are the most common. Extreme variations in *enkang* size are found at Endulen-Esere (Tanzania), where the modal *enkang* is a single-household unit, but there was one 19-household *enkang*[13].

The household in physical terms refers to the collection of houses about a communal gate. The gate carries the name of the man and a separate gate is a symbol of his autonomy as a cattle owner and founder of a family. Grandin describes the household as "the primary unit of production" (1991:21).

[13] Although it should be noted that this was the *enkang* belonging to a *laibon* (a traditional healer).

Table 4 Here

Households in Tanzania are generally smaller than those in Kenya, although household sizes in the Olkirmatian/Shompole study site are very similar to those found in the Tanzanian study sites (Table 4). The largest enumerated household comprised 88 people, at Endulen-Esere (NCA). It should be noted, however, that such large households are relatively rare, normally belonging to a very powerful individual such as a *laibon*. Similarly, while single-person households were recorded in both Kenya and Tanzania, they are also very rare[14].

Living conditions

The type of housing occupied by a household reflects three factors: household wealth, local polices restricting certain housing types, and the level of household transhumance. Maasai houses (*enkaji*) are traditionally made from a mixture of dung and mud, smeared on a wooden framework. Every married woman eventually has her own house, and it is her responsibility to build and maintain it. The house is built for herself, her children, any dependants and (periodically) her husband. Talle (1987) views the Maasai house as a physical structure which "shelters and symbolically embodies a matrifocal unit of consumption and resource sharing" and calls women "heads of houses". At the level of the house, Maasai women possess relatively high levels of autonomy in terms of domestic affairs and the family economy.

Recently, however, there have been changes in traditional Maasai houses. The "modernisation" of housing has become common (Ndagala, 1982), taking the form of rectangular structures with corrugated iron or thatched roofs (Kipuri, 1989). Changing house styles also represent a shift away from houses being associated solely with women. Iron roofs requires money in order to buy the building materials, making it more likely to be a man who is able to make the purchase. The need

[14] A total of three single-person households were enumerated in total, representing 0.2% of all households included in the SRHS (n=1,545).

to measure and cut materials means that specialists in house building are brought in from outside the family unit. It is becoming increasingly common for a man to build himself a house, as a status symbol, and not necessarily for the use of his family[15]. Almost half of enumerated households in Koyaki possessed at least one building with an iron roof, compared with only 8% of households in Olkirmatian/Shompole. Levels of ownership of iron-roofed buildings are very low (3.6%) at the NCA study sites[16] (Table5).

Table 5 Here

The degree of permanence of building structures has important implications for a traditionally transhumant society such as the Maasai. An iron-roofed house may be both a cause and an effect of increasing levels of sedentarisation. As a cause, permanent structures will require year-round residence by at least some members of the household. The increased levels of permanent buildings, particularly in Koyaki Group Ranch, may represent an effect of changing livelihoods, away from traditional transhumant pastoralism towards formal employment and/or cultivation. Exogenous influences such as NGOs[17] have also played a part in the transformation of Maasai *enkaji* in selected locations. The implications of poorly ventilated *enkaji* for morbidity have been noted (AMREF, 1999).

The source of drinking water for a household is an important determinant of health, and seasonal variations in drinking water source can reflect an insecure drinking water source. The fetching of drinking water is essentially a female task, therefore the implications of an insecure drinking water source for a woman's work budget are particularly important (Grandin *et al*, 1991).

[15] Although Kipuri suggests, “in cases where a man builds a western style house but has several wives, the favourite one normally is asked to move into the western house” (1989:306)
[16] It should be noted, however, that the building of "permanent" accommodation is subject to very strict rules in NCAA, which has its own set of planning and building regulations. There has been a change towards thatched roofing materials in NCAA, away from the traditional mud/dung plaster. No data were collected on the prevalence of roofing thatch.
[17] For example, the Maasai Housing Project run by Intermediate Technology Development Group (ITDG).

Table 6 Here

Surface water sources provide the major source of water for all of the study sites (Table 6). Irkeepus has seasonal access to spring water, although recently there have been problems with the security of this water source due to offtake by a neighbouring tourist lodge. Olkirmatian and Shompole Group Ranches have the most diversified drinking water sources, due to the presence of the Shompole swamp, combined with recent water infrastructure developments for the export vegetable crops.

Livelihood

Early accounts by travellers and colonial administrators of the Maasai tended to portray an image of "pure" pastoralism, reliant on livestock products for subsistence (For example, Hollis (1905), Merker (1910), Leakey, 1930; Fosbrooke, 1948). Such accounts have been largely disregarded, and references to cultivation by Maasai have a long history (Berntsen, 1979), and Spear notes that pre-C18th “many Maasai practised a mixed agro-pastoral economy” (1993:131). Indeed, the abandonment of livestock herding in favour of settled cultivation by the Maa-speaking WaArusha (who retain many of the elements of "Maasai" social organisation) is perhaps the most extreme example of this (Spear and Waller, 1993). The trading of livestock for grain has been described extensively (Dahl and Hjort, 1976; Swift, 1986), together with detailed studies of Maasai diet which demonstrate the role played by non-livestock products (Arhem, 1985; Nestel, 1986; Bekure *et al*, 1991).

That subsistence-grown and bought grain play a (major) role in contemporary Maasai diets is clear - as milk yields decline with the onset of the dry season, crops become ready for harvesting. However, the development of cash crop cultivation by Maasai has received less attention in the literature. Throughout all of the study sites, cash and subsistence cultivation were present to

varying degrees (Table 7). There is great variation (determined both by policy and agro-ecological potential) in the type of cultivation that predominates in each location.

Table 7 Here

Cultivation of cash crops predominates in two locations: Olkirmatian (Kenya) and Irkeepus (NCA). Elsewhere, cultivation is far more episodic and sporadic, reflecting inter-annual weather variations. For example, in Olkirmatian GR there has been the rapid (last decade) development of cash-crop cultivation specifically for the export market. The presence of perennial water sources allowing for rain-fed irrigation at the foot of the Nguramen escarpment combined with good road access to Nairobi help to explain this development. A similar example is drawn from Irkeepus (NCA) where ecological conditions (cool uplands with >1,000mm precipitation *per annum*) combined with demand from tourist accommodation have driven the development of small-scale vegetable cultivation.

Table 8 shows the percentage distribution of cultivation at the household level at the time of the survey and ten years previously. Taken at face value, the results from the study sites in NCA would imply a massive and very rapid uptake of cultivation. However, the results are an artefact of the fact that 10 years prior to the SRHS, cultivation was illegal within NCA[18].

Table 8 Here

What the SRHS shows is a high level of involvement of Maasai households in some form of cultivation, both subsistence and commercial. Over 88% of the NCA households and 45% of the Kenyan households reported current cultivation. Maasai cultivate for a wide range of reasons, from

[18] Although it should be noted that cultivation continued to be practised. However, the highly politicised nature of the cultivation ban meant that individuals tended to deny any previous cultivation.

subsistence cultivation of beans designed to complement a pastoral subsistence strategy to intensive rain-fed irrigation of export cash crops with a sophisticated system of marketing and transportation. Cultivation, to varying degrees, is associated with a more sedentary lifestyle as continual labour is required to sow, weed and harvest crops. For a traditionally transhumant pastoralist population such as the Maasai, the uptake of cultivation has implications for population mobility, providing a further measure of changing livelihoods.

The importance of transhumance for pastoralism as part of a strategy to cope with the high degree of inter-annual variability in the savanna ecosystem has been well documented (for example, Behnke and Scoones, 1993). Several authors note increasing levels of sedentarisation by the Maasai, including Grandin (1991), Fratkin (1994) and Rutten (1998). Reasons for increased sedentarisation include individual land tenure (and the erection of fences), cultivation, and increased use of education services. All individuals aged over 6 years were asked whether they had been on transhumance for more than one week in the preceding twelve months. It is recognised that the SRHS was cross-sectional in its design, and is not necessarily a reflection of the inter-annual variation in transhumance. Of relevance here is the *relative* practise of transhumance between the different study sites. Because pastoralism is a household endeavour, it is pertinent to examine transhumance both at the individual and the household level, particularly when considering the implications of cultivation for the practice of transhumance. A household that practices no cultivation is much more likely to transhume as an entire household, compared with a cultivating household where some family members will have to remain near to the field whilst other members of the family transhume. There is extreme variation in transhumance both between and within the study sites (Table 9). For example, over 90% of households in Irkeepus did not report one household member who practises transhumance, compared with Olkirmatian/Shompole Group Ranches where over one third of all households transhume as an entire household.

Table 9 Here

The influence of the ecological context must be taken into account. Of all the study sites, Olkirmatian/Shompole is the driest and therefore more exposed to inter-annual rainfall variability. However, the influence of changing land tenure in Kenya must also be noted. Olkirmatian/Shompole Group Ranches are not in the process of sub-division of land, and communal grazing committees continue to operate. In comparison, the distribution of individual title deeds to land is well under way in Koyaki Group Ranch. That individual ownership of land is incompatible with transhumance has long been recognised. Within the Tanzanian study sites, where the variable of land tenure is essentially "controlled", variations in transhumance reflect an ecological gradient very clearly. In upland Irkeepus there is virtually no transhumance compared with the much drier lowland Meshilli where seasonal movements towards the Gol Mountains have been noted (Thompson, 1997).

Quantitative data on cultivation and transhumance provide the context within which individual occupations might be placed. Questions on occupation were framed very loosely, and referred to the amount of time an individual spends on a particular occupation, rather than any consideration of the amount of income derived from that activity. The data contained in Graph 1 refer only to individuals aged 15 years and above[19].

Graph 1 Here

The distribution of occupations is highly variable between locations, reflecting both economic opportunities and ecological influences. In Kenya the opportunities for diversification away from "traditional" pastoralist activities are greater than in Tanzania. However, it should be noted that for

[19] And does not include students in the total.

the majority of individuals, pastoralism still plays some part in their livelihood, albeit in combination with some other activity. In Tanzania, only at Endulen-Esere are there opportunities for diversification of occupation, reflecting the locally important role of Endulen-Esere, with a hospital, trading centre, police station and veterinary centre.

The influence of the cash crop opportunities in Olkirmatian/Shompole Group Ranches is clearly highlighted, with 8.3% of individuals reporting cultivation of cash crops as their only occupation. It is likely, of course, that these individuals still remain integrated to some degree within the pastoral economy as they are often younger (educated) sons of traditional pastoralist families.

Women tend to have far less diversified income sources than men. One of the main ways in which it is (traditionally) acceptable for a Maasai woman to earn cash income is to sell milk that is surplus to household requirements (Table 10), although the ability to sell milk varies seasonally. The making and selling of beadwork by women reflects the presence of an opportunity; Koyaki Group Ranch being so close to the Maasai Mara has a ready market for beadwork. The majority of women make the beadwork whilst only a few women actually sell the work directly to tourists, either at park gates or at cultural bomas. Most beadwork is sold by middlemen to tourist shops and traders, although no data on this were collected (see, for example, Kipuri 1998).

Table 10 Here

The only other significant source of income for the women studied was shopkeeping. This often involved very small stores attached to the home where a very limited stock of essentials were sold (fat, flour, drugs, sweets). However, it is likely that most of these stores are in fact owned and financed by a husband or male relative, and the women simply attend to the stores.

A second gendered element of occupation is that of *murranism*. Many ethnographies refer to the period of being a *murran* (warrior) as if it were a full-time occupation for Maasai men aged approximately 15-30. However, this is possibly more an overemphasis of the symbolic role of *murran*, rather than a true reflection of contemporary Maasai lifestyle. Because it was possible for a man to reply "*murran*" in the SRHS, it is possible to explore contemporary levels of active participation in this traditional occupation (Table 11).

Table 11 Here

Whilst still very important symbolically and socially, the "active" role of being a *murran* (e.g.: defending property) is no longer important on a day-to-day basis[20]. Although there are no comparable historical data, I suggest that if similar data had been collected two or three decades ago, many more men would have replied that their primary or secondary occupation was "*murran*". Indeed, not a single individual reported themselves as being a murran at the Koyaki Group Ranch study site, the location with the highest levels of economic diversification and formal employment opportunities[21].

Unsurprisingly, *murran* with their distinctive hair and jewellery, are one of the main features associated with Maasai by the large numbers of international tourists that visit Maasailand. Spear suggests that the international recognition of Maasai is due to "countless coffeetable books and tourists' snapshots" (1993:1). The importance of international tourism for Kenyan and Tanzanian economies is well established. For example, the revenue from international tourism is estimated to

[20] Although murran may still be called upon at times of need, and in Kenya are increasingly being associated with local politicians (Hodgson, 1999). Livestock raiding continues to be an illicit activity in some locations, particularly in western NCAA. Some aspects of murranism are still important, including the long distance, possibly cross-border herding of livestock.

[21] The data are cross-sectional, however, and it should be noted that many individuals may have reported themselves as murran at a different time in the year. This is because periodic large-scale age-set *murran* events do take place, and form an important part of the social calendar. If one of these events had recently taken place, then higher numbers of *murran* would probably have been reported. These results do not imply the diminution of the significance of being a *murran* and being involved in an age-set succession processes.

contribute 19% of Kenya's Gross Domestic Product (World Bank, 2001). Two of the study sites are adjacent to major international tourist destinations: Masai Mara Game Reserve (Koyaki Group Ranch) and Ngorongoro Crater (NCA sites). Issues of marginalisation of the majority of Maasai from the income generating opportunities provided by tourism increasingly are being raised (Kipuri, 1998; Akama, 1999). It must be made clear that the present discussion excludes measurement of the actual income derived from tourism. Further, because involvement in tourism here is limited to occupations, indirect sources of tourist-related income cannot be addressed[22].

To what extent are individual Maasai involved in the tourism business? Very few people derive all of their income from tourism alone. In NCA 0.2% of all individuals aged over 15 were employed full-time by the tourism industry. In Koyaki just 1.3% of the sample population were full-time tourism employees. Of course, these figures are no more than the most cursory description of employment opportunities within tourism. However, they do reinforce the view that the majority of Maasai who live near to tourist attractions is not benefiting directly[23]. Particularly in Koyaki, it was interesting to note that individuals with full-time jobs in tourism tended to be clustered in the same households. There are marked differences in the opportunities afforded by the tourism industry for men and women, as summarised below (Table 12).

Table 12 Here

Indirect opportunities from tourism must also be noted. For example, in Irkeepus (NCA) 27.3% of adults reports that they grew vegetables (cabbages, carrots and potatoes) in order to sell them to the nearby tourist lodge. No information can be presented here on the prices derived from these

[22] Substantial returns from tourism for a few individuals have been noted, particularly from the leasing of land to tourist developments in Narok District. (Personal Observation, Thompson Pers. Comm.)

[23] Although it should be noted that the financial opportunities available to local Maasai in the study areas are greater than those available to communities living near to other protected areas in Kenya and Tanzania, due mainly to the size of the tourist revenue generated by these two protected areas.

transactions, but discussion with key informants suggested that prices offered by the lodge are very low. Other indirect sources of tourism-related income include the making and selling of beadwork (both to traders and direct to tourists) and the sale of honey to tourist lodges[24]. "Cultural bomas" operate in Talek, Irkeepus and Meshilli but the advantages tend to accrue only to a few selected individuals. Indeed, much of the entrance fee for cultural bomas is often diverted at source by tour guides, and only a small proportion is retained by the Maasai (Kipuri, 1998).

Education

Participation in formal education is a function both of supply and demand. The problems of providing schooling in remote rural areas with poor infrastructure are well known, particularly for non-sedentary populations (Swift, 1990)[25]. Several studies of Maasai participation in formal education have been carried out (King, 1972, Gorham, 1980; Holland, 1996), all reiterating the low levels of school attendance by eligible children. When combined with the traditional antipathy of the Maasai to sending their children to school[26], the low levels of education reported for older Maasai in the survey are unsurprising (Graph 2). The sex bias in completed primary school education is marked, in both countries, with far fewer women than men having attended school.

Graph 2 Here

There is evidence of an improvement in access to education over time. However, it is interesting to note is the overall decline in the levels of education for Tanzanian Maasai men from 11.0% of men aged 50-54 to 4.0% of men aged 25-29 years. Perhaps most informative are current levels of enrolment for Maasai children, relative to national rural levels. Of all children aged 7-12 years 32%

[24] In Irkeepus and Meshilli (NCA) in response to NGO equipment and training provision.
[25] The problems include: lack of demonstrable benefits of education of pastoralism; labour requirements of herding; transhumant settlement patterns; relatively high (and increasing) school fees; lack of education infrastructure; low population densities; and, the reluctance of teachers to live in relatively isolated areas (after Gorham, 1978).
[26] Described by Galaty as "With education, Maasai often feel they have given away their children" (1992:37).

of Kenyan Maasai were currently attending school, relative to the national rural average of 65%. The corresponding figures for Tanzania are even more dismal, with only 9% of Maasai 7-12 year olds currently attending school, relative to the national rural average of 47% (UNDP, 1999). That Maasai are marginalised in terms of access to education, one of the key determinants of future human capital, is underlined in the data presented here.

Discussion

What do these large-scale data tell us about contemporary Maasai livelihoods and living conditions? Maasai have persisted as livestock owners, with over 98% of all households owning livestock[27]. In Kenya and Tanzania, 90.1% and 98.8% respectively, of adults describe themselves either as pastoralists or agropastoralists. That cultivation is playing a large role in household livelihood strategies is also evident, although the variety in types of and motivations for cultivation must be highlighted.

In Kenya the uptake of cash crop cultivation has been extremely rapid, where conditions allow. This is particularly so in the Shompole/Olkirmatian Group Ranches, where ecological conditions permit rainfed irrigation of cash crops and over half of all households cultivate for the export market. In Tanzania, the use of cultivation for cash crops is also evident, particularly for sale to the tourist lodges and NCAA staff, although on a smaller scale and for much lower returns than in Kenya. The extensive exploitation of cash crop cultivation by Maasai in both Kenya and Tanzania demonstrates widespread diversification of the subsistence economy, wherever conditions allow. While previous work on cultivation by the Maasai has tended to focus on cultivation for subsistence purposes, the data from the current study show widespread cultivation for financial return, in both Kenya and Tanzania. Although clearly limited by agro-ecological conditions and the existence of a market, the uptake of cash crop cultivation by Kenyan Maasai households has been rapid. It is less

[27] Although the absence of livestock data make it impossible to comment on the scale of that livestock ownership

easy to determine the rate of cultivation uptake in the Tanzanian study sites, due to the ban on cultivation in the NCA, which was only lifted in 1992 following a directive from the Office of the Prime Minister. However, cultivation within the NCA is widespread, and has been the focus of much controversy in this multiple land-use area (McCabe *et al*, 1997).

By combining the individual and household data on cultivation, it can be demonstrated that at the country level there are significant differences in the way in which labour for cultivation is organised within the household. In Kenya only 15.7% of all adults include cultivation in the description of their occupation, yet 45.9% of all households practise some cultivation, suggesting that it tends to be selected individuals in each household that do the cultivation. In Tanzania, on the other hand, 72.1% of all adults practise some form of cultivation, distributed across 88.2% of all households. This country-level divergence in the organisation of cultivation is possibly linked to the different motivations for cultivation. In Kenya, the cultivation of cash crops at a plot some distance from the *enkang* necessitates that a portion of the household (perhaps an elder son or a wife) is responsible for the cultivation, sale and transportation of the produce. In Tanzania cultivation is dominated by small-scale cultivation, either next to the *enkang* or a short distance away. Here, a larger proportion of the household will be involved in the day-to-day cultivation of the plot, and there is less demand for specialisation within the household.

Cultivation is an important subsistence strategy for the Maasai. In the wake of increasing food security issues, triggered by a combination of a rapidly growing human population and a static or declining livestock population, trends towards the cultivation of subsistence crops (particularly maize and beans) are to be expected. This study underlines the importance of subsistence cultivation for both Kenyan and Tanzanian Maasai, supporting the findings of other researchers (Arhem *et al*, 1981; McCormick and Elmore-Meegan, 1992).

The complex interrelations between different aspects of Maasai livelihood and lifestyle become apparent when an attempt is made to disentangle the different forces at work in changing living arrangements, building materials and transhumance. For example, the organisation of households and *enkang* diverge noticeably between Kenya and Tanzania. Put simply, Kenyan Maasai are more likely to live in larger single households whereas Tanzania Maasai are more likely to live in smaller multiple households. This difference cannot be explained in terms of different rates of polygynous household formation, as there is no significant difference in either the prevalence[28] or intensity[29] of polygyny between the Kenyan and Tanzanian Study sites (Coast, 2000). The dominance of single household *enkang* in Kenya can be linked to other changes in Maasai lifestyle, including the high levels of iron-roofed permanent housing and relatively low levels of whole household transhumance.

Closely bound up with relatively lower levels of transhumance in Kenya are wider socio-political events such as the increasing individualisation of land tenure, resulting in the construction of fences that operate as physical barriers to livestock movement. When all of these elements are combined (iron roofed house plus cultivation plus restricted livestock movement), seen perhaps most clearly at the Koyaki study site, it is unsurprising that livelihood diversification is occurring. Tanzanian Maasai living in NCA, by way of contrast, do not have the same restriction of livestock movement and levels of iron roofed housing ownership are still low[30]. The result is that partial household transhumance dominates. Any discussion of transhumance as a survival strategy ignores the ecological context at its peril. In those study sites situated in drier locations, particularly Olkirmatian/Shompole and Meshilli, transhumance of either part or all of the household remains an important tactic.

[28] Prevalence of polygyny refers to the proportion of men in polygynous marriages, and was 46% for both Kenya and Tanzania in the SRHS.
[29] Intensity of polygyny refers to the average number of wives per polygynist, and was 2.72 for Kenyan Maasai and 2.84 for Tanzanian Maasai in the SRHS.
[30] See fn 16.

The different spheres of male and female Maasai life have been considered extensively, particularly in the work of Talle (1987, 1999), Llewelyn-Davies (1978) and von Mitzlaff (1988). The data from the SRHS permit some tentative quantitative assessment of the differences in occupation and education (themselves strongly linked) between men and women. That Maasai women are far less integrated than men within the "non-traditional" economic system and have lower levels of educational attainment is unsurprising – the same pattern is found throughout sub-Saharan Africa and most of the developing world. It is perhaps in the tourist industry that women are most excluded, relative to men. The opportunities for direct employment are extremely limited for all Maasai, and the narrow range of jobs available for women reduces their potential to engage in this arena even further. Low female participation in formal education further reduces the chances for employment outside of the household, as an ability to at least speak KiSwahili and preferably English are prerequisites for such jobs. The greatest irony is that it is Maasai women's handicrafts and jewellery that are most associated with the Maasai by the international tourists that visit Maasailand, but few Maasai women benefit directly from this trade.

One drawback to a cross-sectional study such as this is the inability to capture information on those individuals who have moved out of the traditional rural Maasai system. Anecdotal evidence suggests that in recent years, opportunities for Maasai men (especially those with an education) outside of a "traditional" Maasai lifestyle have become increasingly accessible and attractive. Given these expanding opportunities, it is possible that such men move away permanently and then marry non-Maasai women. Spear, for example, suggests, "education and work elsewhere supplants the socialization of the *murran*" (1993:14). The only circumstantial data to support the suggestion that there is outmigration of Maasai males to urban areas is that provided by the most recent

Kenyan Census[31]. The sex ratio for Maasai living in Nairobi has been very high for the last two censuses, at 270 and 247 males per 100 females in 1979 and 1989, respectively. This implies sex-selective migration of Maasai males relative to Maasai females, although the movement of Maasai women due to destitution should not be ignored (Talle, 1999).

That Maasai are becoming increasingly exposed to processes of marginalisation and destitution has been noted by several authors (Arhem, 1985; Talle, 1999; Hillman, 1994; Homewood 1995). The very low levels of primary school enrolment, relative to non-Maasai rural populations are also cause for concern. In both Kenya and Tanzania, the diversification of individual and household livelihood strategies will undoubtedly favour those people with education, and not least the ability to speak the *lingua franca*, KiSwahili. Three households in the current survey were recorded as doing any available work in return for food, and had no livestock of their own[32]. Given the decreasing ability of Maasai and pastoralists in general to deal with subsistence crises, such cases will become less rare in the future.

[31] Comparable data for Tanzania are unavailable.
[32] These families were referred to as *Kibarua*, a KiSwahili term used by Maasai to describe casual work in return for food.

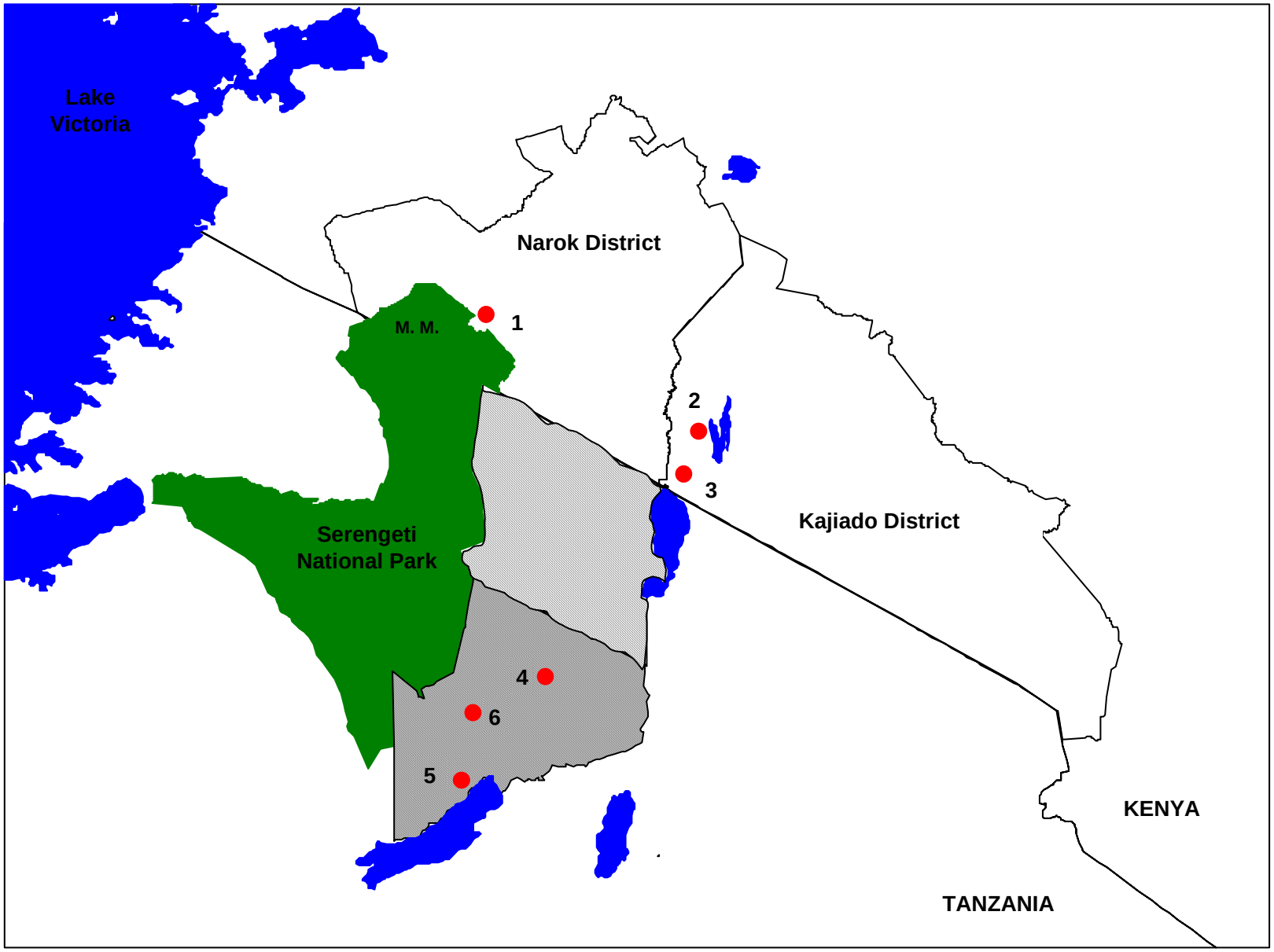

Lake Victoria
Narok District
M. M.
1
2
3
Kajiado District
Serengeti National Park
4
6
5
KENYA
TANZANIA
100
200
Kilometres
Key
Ngorongoro Conservation Area
M.M. Maasai Mara Game Reserve
1 Koyaki Group Ranch
2 Olkirmatian Group Ranch
3 Shompole Group Ranch
Ngorongoro District
4 Irkeepus
5 Endulen-Esere
6 Meshilli
N

Table 1: Maasai totals, Kenyan census data (1962-1989)

	Kenya	Kajiado	Narok
1962			
Maasai as % of total administrative population	1.8%	78%	79%
Total Maasai	154,079	78,887	86,472
1979			
Maasai as % of total administrative population	1.6%	63%	56%
Total Maasai	241,395	93,560	118,091
1989			
Maasai as % of total administrative population	1.8%	57%	47%
Total Maasai	377,089	146,268	188,303

Table 2: Extant research on *enkang* size since 1950, by country.

Year(s)	Tanzania		Kenya
1950			6.2[1]
1960s	7-9[2]	4.0[3]	5.1
1970s	2.5[4]	1.7	2.7
1978		3.2	
1980	5.3		2.5[5]
1983			1.8
1984	5-7[6]		
1985			1.3
1993	3-5		

[1] Njoka (1979) quoted in Grandin (1986)
[2] Jacobs (1978) (Tanzanian Maasailand)
[3] Arhem (1985) (NCA)
[4] Ndagala (1982) (Monduli)
[5] Grandin (1986) (Kajiado)
[6] Potkanski (1993) (Ngorongoro)

Table 3: Number of *olmarei* per *enkang*, by major study site, SRDS data.

	Mean	Median	Mode	Minimum	Maximum	n
Kenya						
Koyaki GR	2.8	2.0	1.0	1.0	8.0	182
Olkirmatian/Shompole GR	2.6	2.0	1.0	1.0	10.0	453
All	2.6	2.0	1.0	1.0	10.0	635
Tanzania						
Endulen-Esere	4.4	3.0	1.0	1.0	19.0	502
Irkeepus	3.3	3.0	3.0	1.0	7.0	231
Meshilli	4.1	4.0	4.0	1.0	11.0	186
All	4.1	3.0	1.0	1.0	19.0	919

Table 4: Household size, by major study sites, SRDS data.

	Mean	Median	Mode	Minimum	Maximum	n
Kenya						
Koyaki GR	12.9	10.0	6.0	2	63	182
Olkirmatian/Shompole GR	9.2	7.0	6.0	1	80	453
All	10.3	8.0	6.0	1	80	634
Tanzania						
Endulen-Esere	8.7	7.0	5.0	2	88	502
Irkeepus	10.6	8.0	6.0	2	56	231
Meshilli	8.2	7.0	3.0	1	33	186
All	9.1	7.0	5.0	1	88	920

Table 5: Households owning at least one building with an iron (*mabati*) roof

	Percentage of households	n
Kenya		
Koyaki-Lemek G.R.	47.8	182
Olkirmatian / Shompole G. R.	8.0	448
Total	19.6	630
Tanzania		
Endulen-Esere	6.0	500
Irkeepus	0.4	229
Meshilli	1.1	186
Total	3.6	915

Table 6: Percentage distribution of drinking water source, by study site and season

	Kenya			Tanzania			
	Koyaki GR	**Olkirmatian/ Shompole GR**	**Total**	**Endulen-Esere**	**Irkeepus**	**Meshilli**	**Total**
Wet season							
Dam	1.1	13.8	10.0	0	0	45.7	9.6
Well	0.0	12.9	9.2	0	0	0	0.0
River	66.5	38.8	46.9	44.8	93.0	15.6	50.9
Pond	1.1	15.2	11.1	0	0	0.5	0.2
Spring	30.2	0	8.7	50.8	7.0	38.2	36.9
Tap	1.1	19.2	14.0	4.4	0	0	2.4
Dry season							
Dam	1.1	0.0	0.3	0	0	34.4	7.1
Well	0	0.2	0.2	7.4	0	0.5	4.1
River	37.9	71.2	61.5	88.2	82.1	62.4	81.2
Pond	16.5	2.2	6.4	0	0	0	0
Spring	40.1	0.0	11.6	0	17.9	2.7	5.1
Tap	4.4	26.3	20.0	4.4	0	0	2.4

Table 7: Major cultivation types, by study site

	Cultivation types
Kenya	
Koyaki G R	Subsistence grain cultivation + Some larger-scale wheat cultivation
Olkirmatian G R	Mainly commercial cultivation for export market + Small amount of subsistence grain cultivation + Perennial rain-fed irrigation
Shompole G R	Subsistence gain cultivation + Some irrigation from Shompole swamp
Tanzania	
Meshilli	Subsistence grain and bean cultivation
Irkeepus	Vegetables for sale to tourist lodge
Endulen-Esere	Subsistence grain cultivation

Table 8: Percentage of households reporting cultivation by time period and study site

	Cultivated 10 years ago	Currently cultivate
Kenya		
Koyaki G R	15.9	31.3
Olkirmatian/Shompole GR	20.1	51.8
Total	18.9	45.9
Tanzania		
Endulen-Esere	1.1	98.2
Irkeepus	5.7	76.4
Meshilli	0.0	76.3
Total	1.9	88.2

Table 9: Household-level transhumance, by study site

	Transhumance		
	None	Partial household[7]	Whole household
Kenya			
Koyaki-Lemek G R	69.2	30.2	0.5
Olkirmatian/Shompole G R	42.4	22.5	35.0
Total	50.2	24.8	25.0
Tanzania			
Endulen-Esere	4.8	68.0	27.2
Irkeepus	92.6	6.6	0.9
Meshilli	2.2	96.2	1.6
Total	26.2	58.3	15.5

[7] At least one member of the household went on transhumance.

Table 10: Percentage of women deriving some income from milk and beadwork sales

	Milk selling	Beadwork
Koyaki GR	0.2	20.5
Olkirmatian/ Shompole GR	4.4	0.3
NCA	20.8	0.9

Table 11: Numbers of individuals[8] who described either their main or secondary occupations as *murran*, by major study site.

	Total	*Murran*	%
Kenya			
Narok	285	0	0
Kajiado	539	84	15.6
All	824	84	10.2
Tanzania	982	135	13.7

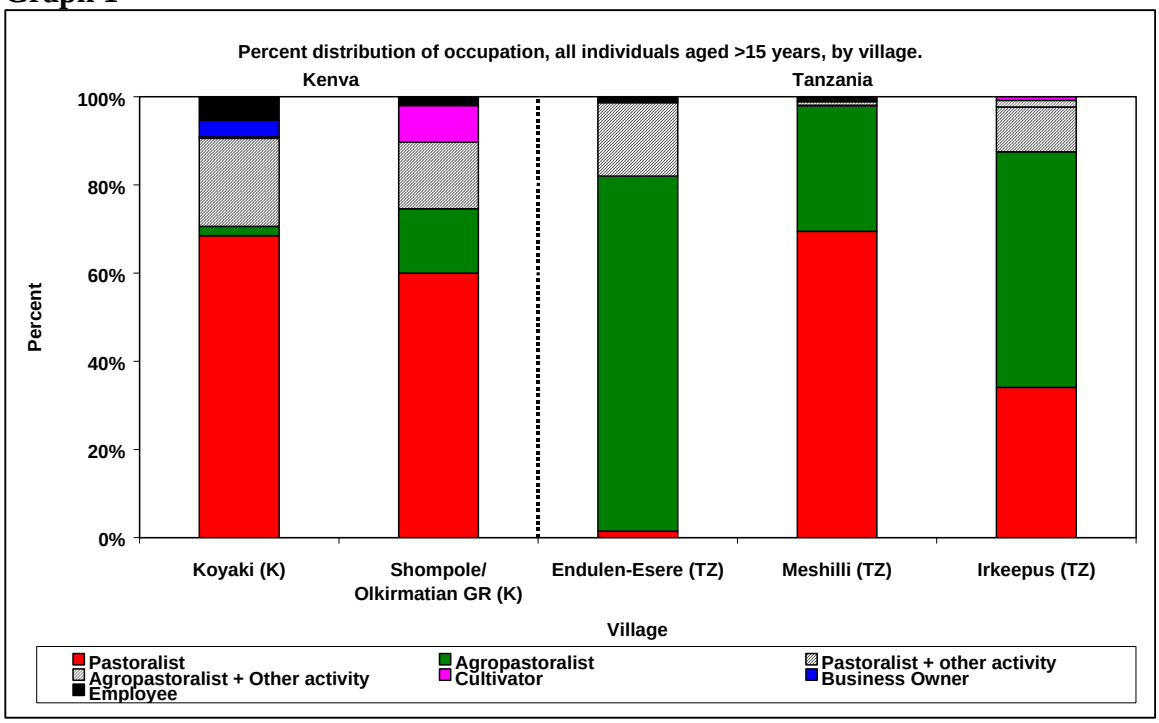
[8] Men aged 15-30 years.

Table 12: Tourism-related employment opportunities, by sex.

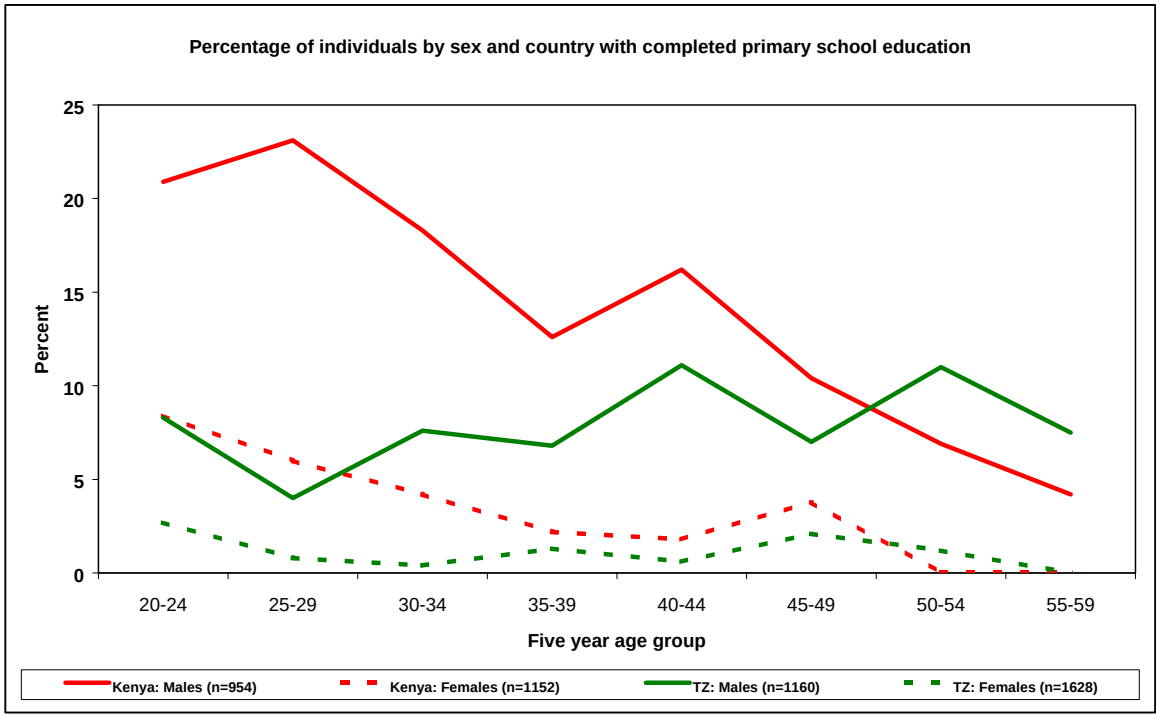
Men and women	Cultivate and sell vegetables to lodges; Lodge entertainment (singing and dancing[9]); Work in cultural *manyatta*
Men	Game ranger/ warden; Campsite/ lodge guard; Lodge room cleaner; Keep bees and sell honey to lodges; Trader in beadwork; Tourist guide; Tour driver
Women	Make beadwork; Sell beadwork directly to tourists

[9] It should be noted that many of the people who perform the singing and dancing are non-Maasai.

Graph 1


Percent distribution of occupation, all individuals aged >15 years, by village.
Kenva
Tanzania
100%
80%
60%
40%
20%
0%
Percent
Koyaki (K)
Shompole/ Olkirmatian GR (K)
Endulen-Esere (TZ)
Meshilli (TZ)
Irkeepus (TZ)
Village
Pastoralist
Agropastoralist
Pastoralist + other activity
Agropastoralist + Other activity
Cultivator
Business Owner
Employee

Graph 2


Percentage of individuals by sex and country with completed primary school education
Percent
25
20
15
10
5
0
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
Five year age group
Kenya: Males (n=954)
Kenya: Females (n=1152)
TZ: Males (n=1160)
TZ: Females (n=1628)