

# THE IMPACT OF COMMERCIALISATION ON THE ROLE OF LABOUR IN AFRICAN PASTORAL SOCIETIES

by

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## INTRODUCTION

As pastoral systems undergo commercialisation, all parts of those systems - livestock productivity, range use, household economies and the socio-cultural system itself - adjust to the new goals of production. This paper considers one of the elements in this adjustment, that of the changing role of labour. The evidence is compared from different African pastoral areas, to ascertain whether there are any trends in the way different types of labour are organised when pastoralists commercialise.

We define commercialisation as the re-orientation of livestock production by some or all members of a pastoral society, characterised by increasing rates of live animal sales and increased use of purchased inputs. Commercialisation involves a partial or total shift in the goals of production from meeting subsistence needs to producing, in part, for a market as well as to continue to meet the previous goals of subsistence production. This paper forms part of a research project in progress within the *Pastoral Development Network* at ODI on commercial change in pastoral Africa.

In this review, we are not so much concerned with quantitative changes in the amounts and types of labour input when pastoralists commercialise, as we are with *qualitative* changes in the kinds of labour used; the ways in which labour is obtained, managed and remunerated; the tasks undertaken and finally, changing social and economic relationships between livestock owners and those who tend their livestock. The concept of labour which is applied here encompasses all efforts aimed at maintaining the well-being of livestock, which includes management decisions as well as performing actual tasks.

In the first part of the paper we summarise how the necessary balance between labour and livestock is achieved in subsistence-oriented pastoral systems. This balance is inherently unstable, due to human and livestock population dynamics, but pastoral societies have various mechanisms for gaining temporary equilibrium. Commercialisation introduces a further source of destabilisation to which pastoral systems have had to adjust.

In the second part of the paper, we review some of the most significant changes in patterns of labour that have been introduced with commercialisation. Although not all members of a pastoral society may be commercialising to the

same degree, the process entails a re-organisation in the division of labour within and between households which affects all members of that society (and often neighbouring societies). These changes range from erosion or transformation of the traditional equilibrating mechanisms outlined in the first part of the paper, to innovations only made possible through the infusion of new capital. We conclude that the shift in the value of livestock from primarily use value to market value, which is the hallmark of commercialisation, has resulted in more rigid and permanent forms of socio-economic stratification in which, among other effects, there are qualitative transformations in the organisation of labour.

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## **Part I**

### **THE PRE-COMMERCIAL SETTING - INSTABILITY AND EQUILIBRIATION IN PASTORAL LABOUR**

#### **Overview**

Instability is relatively constant in the balance between people (as managers, labourers and consumers) and their livestock, within pastoral systems. As Stenning noted:

Within the life-history of a family and its herd ... [T]here arises a whole range of temporary, partial or potential disequilibria which require resolution. (1958:101)

Over- or under-supply of labour is one of the critical causes of instability, a problem which remains within commercialising pastoral systems, except that the very process of commercialisation itself introduces new instabilities which require resolution.

We therefore begin by reviewing the main sources of instability involving labour and the mechanisms for overcoming these, that have been noted in pastoral systems prior to commercialisation - those we term pre-commercial societies. What is of interest here, which is explored in the second section, is the extent to which these mechanisms of adjusting labour supplies and demands have been retained, attenuated, reformed, replaced or simply abandoned when pastoralists commercialise.

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How these disequilibria are resolved is delimited by four principle factors, the first two of which are relatively constant:

- the different biological characteristics of herd or flock species; each species requires particular kinds of human management, and has certain biological limitations and advantages.
- the social prescriptions and practical considerations that govern the division of labour in a particular society.

The organisation of labour with regards to livestock is also affected by another set of biological and social factors, which being time-dependent, are continually in flux both internally and in relation to each other:

- the family developmental cycle, with its shifting age and gender structure resulting in changing labour availability and subsistence needs.
- the herd biological cycle, which imposes changing demands on labour well as yielding changing output.

Within the literature, less attention has been paid to the effects of the first factor in relation to the other three factors (see, for example, reviews by Toulmin 1983 and Swift 1979a). The continuous dynamic between these four factors suggests that in addition to how pastoralists manipulate the quantity of animals in relation to people, to overcome disequilibria, the *quality* or type of livestock in relation to the *quality* of labour categories available to the household is also a critical issue (Behnke and Kerven 1984, McCabe 1988, Sperling 1985, Torry 1977).

These qualitative distinctions mean that various types of human labour, different livestock species and categories within each livestock species are somewhat specialised; they each have attributes which define their function within the pastoral system.

Thus 'labour' must be suited to a task and to a species, as the following remarks expressed by a Ngisonyoka Turkana herder illustrate.

I grew up with camels, with them I know everything. I know when they are hungry, I know when they are thirsty, I know when they are sick and what to do to make them well. I know when they are happy and when they are sad. Cattle, I don't know them. I just push them around. (McCabe 1988)

In the same manner, the kind of livestock held must be suited to a family's labour profile, which itself alters over time, as is summed by a pastoralist in the Bay region of Somalia:

A young man just married, who has money but no animals must start with goats as he is likely to have small children to herd them. Once the goat herd is built up, the family can then exchange some of them for cattle. Once there are more cattle, they can be exchanged for camels... (Behnke and Kerven 1984)

The above illustration shows that as the composition of the family changes through the development cycle, family labour will facilitate acquisition of different species of animals. Sperling has also shown that the birth order of females and males in a pastoral family has a critical influence on a family's access to appropriate labour at the right time, given that livestock management is gender and age-specific (1985).

Given the biological characteristics of different animal species, as well as practical considerations and social prescriptions which govern the social division of labour by age and sex, each animal species is typically managed by different categories of labour (see, for example Behnke and Kerven 1984, Abdullahi 1990, Morton 1989). In a comprehensive literature review, Niamir (1989) comments that in the majority of cases, men and/or boys herd and care for large stock (camels and cattle), while women and girls tend smallstock (goats and sheep) and are also responsible for milking. There are exceptions to this pattern, particularly in the extent of pastoral duties undertaken by women, but the point here is that within each pastoral society there exist cultural norms defining the most appropriate kinds of people for each livestock task. In pre-commercial societies, when the appropriate people are not available to a herd owner, exceptions can be made or steps must be taken to amend the situation; with commercialisation, the norms themselves may alter as different kinds of labour are defined as appropriate for new production goals, different species and different management levels.

A state of disequilibrium between herd and labour can therefore exist not as a result of the inadequate number of people available to a household but as a result of the inappropriate *kind* of people available in the household. This observation has significant implications for pastoral sustainability under conditions of commercialisation, as will be shown in the second part of this paper.

### **Disequilibrating Factors**

The causes of disequilibrium in the balance of livestock and labour are manifold, ranging for example, from minor transitions in a pastoral family's marital status to major natural disasters. Swift (1979) has identified two major causes of the imbalance. The first relates to natural events such as drought and epidemics and to social calamities such as war and raiding.

Under certain extreme conditions, many pastoral households cannot regain equilibrium within pastoral production because of high stock losses. Such

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households are either 'sloughed off' from pastoralism altogether or continue to exist as marginal pastoral producers pursuing supplementary economic activities such as cultivation, trading or wage labour (Toulmin 1985). Instances of pastoralists who have recently been affected by such events include the Isiolo Boran (Hogg, 1980; Dahl and Sandford 1978), the Bor Dinka (ILACO 1981), the Somalis of northern Kenya (Merryman, 1989), as well as many Sahelian groups (Toulmin 1985). It is, as we shall see, these marginal pastoral households which often become a source of more permanent labour supply to richer, commercially-oriented households whose herds generally withstand a disaster.

The reverse situation may exist when stock accumulation outstrips available labour due to favourable environmental conditions. For example, the colonisation of the more favourable semi-humid 'middle belt' by the Fulani led to unprecedented levels of stock holdings accruing to individual households (Blench 1985). The labour shortage which resulted from this situation was initially met by the Fulani entering into labour contracts with the neighbouring agricultural Samba and Mambila ethnic groups. But as grain prices rose in relation to livestock and livestock products, the opportunity costs of herding labour became very high; i.e. the amount of money that could be earned in agricultural production during a year exceeded the amount of income that could be realised from herding someone else's cattle. Because herders were in high demand, they were able to negotiate higher payments. In this case, pastoral households had overextended their stock accumulation to such an extent that they lost control over the labour market.

A second principle cause of imbalance between livestock and labour noted by Swift (1979) relates to the regular cyclical fluctuations associated with the process of household reproduction, herd reproduction and transmission of animals. The literature contains many examples of this process, based on Stenning's analysis of the Woodabe Fulani (Stenning 1957).

Other causes of disequilibrium between herds and labour have arisen more recently, as pastoral societies become more integrated with the nation state and international economies. One such cause is the temporary or permanent withdrawal of certain categories of labour from households, due to outmigration for employment. Again, cases abound from many pastoral areas of Africa (reviewed in Kerven 1984; some more recent cases are documented in Morton 1989, Sperling 1987, Abdullahi 1990). Another cause is due to the liberation of formerly servile classes, for example among the Twareg and Maure in west Africa and for groups within Sudan (Manger 1989, Toulmin 1983, Oxby 1986, Morton 1989). The increasing propensity for the children of pastoralists to attend school is a further source of labour withdrawal (Blench 1985, Chavangi and Hansen 1983, Hogg 1980, White and Meadows 1981, Solway 1986).

## **Equilibrating Labour Supplies and Demands**

Each cause of disequilibrium may require that pastoral households adjust their labour supply or livestock holdings. A number of social institutions provide flexibility in making these adjustments. Here we focus our attention on those equilibrating mechanisms involving labour, as the key variable with which this paper is concerned. A full discussion of the ways in which livestock are managed in order to achieve equilibria is given by Toulmin (1983).

Pastoral labour supply has two dimensions; firstly there is labour derived from a family household, and secondly, there are various sources of extra-household labour. Family labour supply will be considered first.

It has been suggested that pastoral societies have an in-built demographic mechanism to keep the size of the human population small relative to available livestock (Swift 1979a, Randal and Winter 1986, Beaman 1983). According to Swift (1979), west African pastoralists, regardless of their social organisation, have lower fertility rates than agriculturalists. The low fertility rates are a result of low birth rates achieved through a number of social institutions such as delayed marriages. Among several groups of east African pastoralists, delayed marriage is reinforced through the age-set system (for Maasai, see Jacobs 1965; for Samburu, see Spencer 1965; and for Rendille, see Beaman 1983, for example). In the east African age-set system, men become eligible to marry for the first time at a specific time in the age-set cycle, after many years of adult bachelorhood. Thus the period between the marriage of different age-sets guarantees a stable body of unmarried young men and women available for pastoral labour.

Incidences of delayed marriage and delayed separation of offspring from parental households have been observed across a wide diversity of pastoral societies, e.g. among the Malian Tamasheq (Randal and Winter 1986), the BaKgalagadi of Botswana (Jerve 1981) and the Gabra of Kenya (Torry 1977). Delayed separation occurs in the practice of bride-service, for instance, whereby the bridegroom, and sometimes the groom's entire family are obliged to perform bride services, such as tending livestock, for the wife-giving family for a specified period. Cases include the Gabra (Torry 1977) and Somalis (Behnke and Kerven 1984). Apart from the need to retain labour in the household, these social institutions effectively delay the splitting of a family herd through bride price and pre-inheritance which typically results in imbalances between labour and livestock.

The selection of a spouse is also an opportunity to adjust labour and livestock, as in the case of the Twareg of Niger, where marriage rules are manipulated to harness stock and labour by encouraging cross-cousin marriages among the noble caste. In this case, stock-rich noblemen prefer to marry their

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close female relatives who are rich in servile labour (Oxby 1974), so as to combine resources.

In the reverse situation when the number and composition of family labour is insufficient to manage the family herd, other social institutions allow for a re-balancing. The growth and development of the household provides labour through the reproduction of children. The rate of expansion of the household may be related to its wealth, as this will determine the speed of inheritance and the age at which the offspring enter into marriage. Wealth also determines the ability to marry more than one wife. Polygyny plays an important role in providing pastoral labour. In order to facilitate the continuous reproduction of children to supply labour for herding, some pastoral societies practice serial polygyny, whereby the male household head takes on younger wives when the first spouse reaches menopause. This way, the ageing father can maintain control of his herds through the labour of his younger sons even when his older sons may have already separated from the parental household (Merryman 1989).

Family expansion as a strategy to increase labour availability has its disadvantages. Due to factors such as birth order of children, spacing, and mortality, it may take up to fifteen years into their conjugal life before a new household is able to use its own offspring for herding duties (Sperling 1985). In some cases, the labour pool of the household may begin to dissemble even before it reaches its bloom. For example, if a couple has two daughters in a row and then two sons, the first daughter may get married when the youngest son is too young to actively participate in pastoral production. Thus, reliance on family labour offers the least flexibility in achieving equilibrium.

The second source of labour - from outside the family - offers many more options. As has been discussed earlier, a household must not only have sufficient numbers of people in relation to livestock in order to be viable but also the right categories of people to carry out the roles and responsibilities assigned on the basis of gender and age. Furthermore, a family needs to have the right mix of livestock for its particular family requirements at any point in time.

Within pre-commercial pastoral systems, the measures used to adjust labour supply between households have, with one important exception, one feature in common - they are all temporary measures, expedients to overcome disequilibria. Summarised below are some of the principle measures used. It should be noted here that the one exception to the temporary nature of these expedients are the slave or serf systems mentioned above, (and also existing between the Tswana, Kgalagadi and San peoples in Botswana; Solway 1986). However, as will be discussed later, these more permanent structural relationships within pre-commercial pastoral societies are still qualitatively quite distinct from those that emerge with commercialisation.

### ***Quasi-Adoption***

This is whereby a labour-deficient household makes up the difference by 'borrowing' a child from close relatives. This strategy has been widely reported; cases include the Gabra (Torry 1977), the Samburu (Sperling 1985), Ngisonyoka Turkana (McCabe 1988), Somalis (Behnke and Kerven 1984) and among the west African Woodabe Fulani and Twareg (Swift 1979a). The adopted children range between six and ten years of age and may remain with the adopters for several years, sometimes up to the time when they get married. The lending of the child strengthens what is already a close bond between two families. On the other hand, the borrowing of a child initiates a series of life-long commitments towards him or her. For example, among the Samburu (Sperling 1985) a child borrowed at the age of eight may expect a present at circumcision and a contribution to his bride price when he eventually gets married.

The borrower undertakes to feed and provide for the child because this relationship is based on the understanding that it is the borrower, rather than the child, who is in need of assistance. This is why the reimbursement rules are not set, as in a more formalised contractual relationship where it is assumed that it is the worker who needs assistance and should therefore have specific remuneration. As we shall see in the subsequent section, the rules governing this kind of relationship are undergoing modification with the increasing level of commercialisation.

Although all families irrespective of the stage in the development cycle may borrow children, newly-formed households lacking children of their own are more likely to utilise this strategy (McCabe 1988). Furthermore, as newly-formed households are more likely to begin their herding career by first accumulating small stock (Behnke and Kerven 1984) they are more likely to require child labour to help herd the small stock. Older households are more likely to have many children and wives to look after their small stock and therefore any additional labour that they may require will be deployed to look after the large stock.

### ***Kin Cooperation***

Households linked by close affinal or agnatic ties may pool their labour by amalgamating 'like species' which belong to several households and putting them under the care of one herder. This strategy helps to reduce the number of potential herding units for each household. For example in one study area among the Samburu of Kenya (Sperling 1985), most households in one encampment own five different groups of animals, which brought the total number of potential management units for the whole camp to one hundred and seventeen. However, by combining like species and herding them on a co-



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operative basis, the number of actual management units was reduced to only forty.

This strategy is also widely used among many pastoral societies, especially those practising multi-species herding (Niamir 1989). It is also common in cases where the milch herd of a single species are herded separately from the dry herd. In such instances, the dry stock of different households are amalgamated and sent into highly mobile satellite camps, while the milch herds are kept around the semi-permanent main encampment, where women can carry out the milking and dairy processing. Due to the high degree of mobility, stamina and competence required in the herding camps, labour there is predominantly young male adults (Ensminger 1984, Dahl and Sandford 1978, Gebre-Mariam 1987, McCabe 1988, Torry 1977, Blench 1985). Since not all the members of the households sending animals will be required in the camps, this arrangement releases other household members to attend to other chores.

Not all households will have sufficient labour to contribute to the herding pool (Sperling 1985, Ensminger 1984, McCabe 1988). This is the case for newly-formed households which lack a male member of the required age category. Since trustworthiness is a highly valued virtue in the satellite camps, given the opportunity for dishonesty which exists there, it is only those households which can afford to send a close trusted kinsman to the satellite camps which can generally utilise this strategy.

It should be noted that such herd splitting is a livestock as well as a labour management strategy. Niamir cites numerous cases in which herd splitting is practised for purposes of specialised range use or for economic reasons such as retaining saleable males nearer to markets, in addition to labour pooling (1989).

### *Stock Associates*

The labour of other households is frequently used to manage stock in excess of a household's immediate needs and family labour supply, through forging quasi-kinship ties between households. Such stock associates may belong to different clans or ethnic groups, and each party may reside in a different location. For example, some Gabra households transfer their stock to Boran stock associates who look after the animals while utilising their milk (Torry 1977). Similar arrangements occur among the west African Fulbe, who entrust cattle to their Samba agro-pastoral neighbours (Blench 1985). Intra-ethnic stock associateships are common for example among the Tswana (Curtis 1972, Solway 1986) and among the Turkana (Gulliver 1955). Apart from the milk and other benefits accruing to the entrusted herders, there may be further reimbursement or reciprocal exchange in the form of livestock after an interval of time.

The institution of stock associates not only relieves the labour burden of households with more stock than available labour, but it is also often a livestock

management method, to take advantage of spatially separated range and water resources at different times of the year and as a risk-aversion strategy, for example avoiding localised diseases, droughts and predators. In the past, it was widely used as a means of avoiding tax on livestock owned (for example, among the Maasai; Jacobs 1965).

### ***Patron-Client Relationships***

These can be divided into two categories: those of a temporary nature, and those which are based on fixed distinctions between sub-groups within a society - in the latter case, typically ascribed characteristics such as ethnicity or caste. Both categories are nevertheless ways of transferring labour between households.

Temporary patron-client relationships arise when one family cannot subsist without access to the resources of another family. This can occur regularly, as part of the family developmental cycle. A younger household which is likely to be poor in both stock and labour, will only be dependent on the richer older households during the period of its expansion, after which it will have enough stock and labour to stand on its own. This process is best illustrated in the case material of the Fulani presented by Stenning (1958). Irregular occurrences, typically droughts or other disasters, also lead to temporary dependencies between patron households and client households (e.g. as described for the Samburu, by Perlov 1987).

For temporary relationships, the general pattern is for patron households, with surplus animals and in need of extra labour, to loan or give some livestock to client households with surplus labour in relation to stock. This symbiotic relationship has the effect of ensuring a more even distribution of people to stock and ensuring that everyone's subsistence needs are met. There is an additional advantage of allowing client households to build (or re-build) sufficient herds of their own while subsisting on the animal products of the richer households.

The main point to note about these temporary types of patron-client relations is that the *personnel* within the relationships are not constant, although the institution itself is a constant feature of a particular pastoral society. The second, permanent form of patron-client relationship is normally maintained inter-generationally between the same set of families and is between individuals or families of unequal social status. In this second pattern, the relationships are also imbued with power and political status within the community.

Some African pastoral societies have contained mechanisms of rigidifying and perpetuating economic inequalities (Oxby 1986, Randal and Winter 1986), particularly where the client-patron relationships are based on ethnicity or caste. In such societies access to wealth (i.e. stock and labour) and its transmission

from one generation to the next is rigidified through the institution of endogamous marriage within the respective groups of patrons and clients.

Servile labour is used by rich patron households to balance stock and labour, amongst other purposes. Asad (1970), for example, points out that among the Kababish, slaves held in excess of a freeman's labour requirements conferred social and political status on a freeman. This relationship involves mutual dependence - that of a noble or freeman caste on the labour of a servile caste - with the latter dependent for its means of subsistence on the former; this is the case for instance among the Twareg discussed above (Oxby 1974), the Malian Tamesheq (Randal and Winter 1986), the Kababish (Asad 1970) and the Sudanese Beja (Morton 1989).

Servile relationships are often forged between different ethnic groups. For example, the Orma of northern Kenya obtain almost half of their extra household labour from the Boran herdsmen who were impoverished during the 'Shifita' troubles in the early 1960s (Ensminger 1984). Similar inter-ethnic client-patron relationships have been observed between the Gabra and the impoverished Watta, Konso and Boran (Torry 1977), between the dominant Bakgalagadi and their Basarwa clients (Solway 1986) and between Dinka and Baggara (Cunnison 1966).

In both the caste and ethnic-based client-patron relationships, the servile party is fed and clothed and sometimes given stock gifts as additional reimbursement. A key feature of most patron-client institutions in pre-commercial pastoral societies is however, a quasi-familial relationship; clients may share food and domiciles with their patrons, and may treat them with the degree of intimacy allowed that of a junior-status family member. The moral and jural framework of the relationship is one of kinship rather than contract.

### **Summary**

The main conclusion from the above discussion is that most pastoral households, at least temporarily, require the labour of non-household members in order to remain viable. Most of the strategies used to garner additional labour resources in pre-commercial pastoral societies involve stock transfer in one form or another. This being the case, the classical model of pastoral production emphasises the increase and maintenance of surplus stock which can be converted into networks of social relationships required to secure access to extra-household labour, among other benefits such as social and political status (e.g. Baxter 1975). It has been argued that since continued pastoral productivity largely depends on the ability to mobilise extra household labour, households with surplus stock will remain disinclined to divert stock from labour investments to the market (Torry 1977), unless they have new strategies of recruiting labour. In the next section, we discuss how commercialisation alters the traditional value of labour, permitting or demanding new recruitment

strategies and fundamentally changing the equation between surplus stock and the network of social relationships which underlies pre-commercial pastoral labour exchanges.

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## Part II

### THE IMPACT OF COMMERCIALISATION ON PASTORAL LABOUR UTILISATION

#### Changing Goals and Strategies under Commercialisation

The transition by pastoralists from subsistence-oriented to commercial production necessarily entails different strategies in organising the main factors of pastoral production, namely land, labour, livestock (as capital) and technological level (Behnke 1987).

For subsistence-oriented herd owners, the goals of production are to make use of all aspects of their livestock's productivity; however, the requirement to extract a wide range of replenishable animal products makes subsistence production a very labour-intensive undertaking necessitating intense contact between animals and people (Behnke 1983). Secondly, cash expenditures in the livestock enterprise must be minimised since livestock sales are undertaken only from necessity, not as part of an investment programme in the enterprise.

The commercial producer, on the other hand, must forego some of the use value of livestock production in order to produce a commodity with a market value - e.g. a live animal in prime condition for sale. This is because the efficient production of a single commodity such as beef is incompatible with a multi-purpose system of animal use. For example, the extraction of milk and draught power mitigate rapid calf growth and weight gain by matures. Reduction in the extraction of use values from livestock means less contact between humans and stock - literally, the animals are used less. At the same time, livestock have acquired a market value realised in cash, which can be re-invested in the enterprise, by hiring labour and purchasing technical inputs.

In sum, commercial and subsistence livestock production have three distinctly contrasting characteristics:

#### *Subsistence-oriented*

high use value per unit animal  
high labour input per unit animal

#### *Commercially-oriented*

high market value/animal  
low labour input/animal

low cash input/enterprise

high cash input/enterprise

As we have seen in the previous section, traditional subsistence-oriented economies are characterised by the tendency to balance stock and labour with the movement of people and animals from self-sufficient households to deficit households. Although poor households were in a relationship of temporary or more permanent dependence on richer households, they were indispensable to the richer households *because surplus labour which could be provided by poorer households was more valuable than surplus milk and meat which had no market value*. Once livestock or livestock products acquire a market value external to the pastoral system, surpluses from richer households are removed from internal circulation rather than being redistributed to secure access to extra household labour. The ensuing income can be used to directly purchase labour rather than relying on social networks created through livestock-labour exchanges. Profits from marketing are usually reinvested into livestock production by purchasing capital intensive equipment and diversifying into other economic enterprises such as retail trading (Ensminger 1984, Solway 1986) and agriculture (Little 1985, Salih 1985), further reducing the dependence of more commercial households on reciprocal livestock-labour exchanges embedded in social networks.

When the goals of pastoral production are re-oriented from the need to maintain household viability through subsistence production towards producing a marketable surplus, the following transformations have been noted.

### **From Fluidity to Rigidity: the Emergence of Permanent Structural Dependencies**

The temporal dependencies which existed between stock poor/labour rich households and stock rich/labour deficient households in subsistence-oriented production will be transformed into more permanent relationships under commercialisation (Graham 1984, Herren 1988, Ensminger 1984). Structural dependencies emerge between labour-supplying and labour-demanding households, resulting in stratified social systems. Many studies have highlighted the significance of this process of social stratification resulting from increased commercialisation among pastoralists (e.g. Grandin 1988, Graham 1984, Bennett 1988, Little 1985, Herren 1988, Ensminger 1984, Abdullahi 1990, Solway 1986, Sutter 1987 and Livingstone 1984 amongst others). There are two reasons why the previously fluid patterns of labour exchanges/transfers tend to give way to more permanent structural dependencies between labour-supplying and labour-demanding households.

### **Withdrawal of Resources from Distribution to Accumulation**

Accumulation resulting from increased commercialisation represents a change in the role of material wealth. The rendering of stock wealth into capital secures for richer households an unprecedented material advantage in terms of expanded production. Instead of being redistributed within the pastoral society to enhance economic security and increase the density of social networks, material wealth is now converted into cash and much of it is being reinvested into production (Solway 1986). This is demonstrated by Solway's case study from the Kalahari in Botswana where the ability of commercialising pastoralists to invest in new technologies has meant that these pastoralists no longer need to enter into the traditional stock associateships (called *mafisa*), mentioned in Part I. Separate statistical evidence from the same area (Bailey, cited in Behnke 1987) indicates that use of live animals for traditional exchange decreases with the level of commercialisation, i.e. large herd owners tend to use less animals for non-commercial transactions. This same process has been observed in other commercialising pastoral societies, e.g. among Fulani in northeast Senegal (Sutter 1987).

The traditional *mafisa* system is undermined by commercialisation because its advantages of saving labour and avoiding localised droughts, epidemics and pasture shortages are rendered much less relevant when these same advantages can be realised through the adoption of capital-intensive production techniques. The wealthy, commercial pastoralists have invested in boreholes to secure access to water, which also relieve the labour bottlenecks associated with watering manually (see also Jerve 1981). Likewise, purchases of modern medication and mineral supplements by commercial pastoralists lessens the risks of epidemics and pasture shortages.

As the pool of animals available for *mafisa* continues to shrink, poorer households in the community are becoming permanently impoverished because they no longer, through supplying their herding labour, have access to the crucial resources available through *mafisa*; milk, draught power and the chance to build up a herd through receiving some of the offspring of *mafisa* cattle. Thus, as richer households continue to accumulate, poorer households are increasingly denied the means of production which they formerly had access to through a distributive system involving transfers of livestock and labour.

A further recorded instance of reduction in stock-associateship is provided by the case of more commercialised individual Maasai ranchers (Hedlund 1971). Under a system termed by Hedlund as 'artificial kinship', Maasai customarily exchanged livestock between friends or future in-laws (also Jacobs 1965). This particularly applied to individuals with large herds, for whom, presumably, family labour to tend their large herds would be limited. However, among those Maasai who took up individual ranches and who are among the more commercialised, there has been a withdrawal from stock-associateship in favour

of selling stock for cash and relying on hired labour (see also White and Meadows 1981).

### **Displacement of Labour from Poorer to Commercialising Households**

The second reason why permanent structural dependencies between labour-supplying and labour-demanding household develop with increased commercialisation is due to a net flow of resources (in the form of labour and animals) away from subsistence-oriented households (Abdullahi 1990, Ensminger 1984, Little 1985). These resources are sometimes appropriated by commercialising households within the pastoral sector. We will use two case examples to expand upon these processes.

The case of the Galole Orma of northern Kenya (Ensminger 1984) best illustrates the process by which subsistence-oriented households become permanently dependent on more commercialised households, as a result of the net outflow of labour and livestock from the former to the latter.

The process of commercialisation among the Galole Orma was accompanied by the emergence of trading centres and partial sedentarisation in and around these trading centres. There soon developed grazing pressure around the newly formed settlements. To cope with this problem, commercialising households set up mobile cattle grazing camps where their herds could be looked after by hired herdsmen, seeking the best pasture conditions for animals. Because commercialising households are no longer dependent on milk for subsistence, they are better able to separate their households (and thus consumers) from the herd by sending their stock to mobile grazing camps. The camps have a low human to stock ratio which gives calves access to more milk to promote growth in addition to providing superior pasture conditions which promote faster maturation and fattening.

However, poorer households who cannot afford to hire labour and who still require access to their milk for household subsistence must keep their animals around the settled villages. Because of the inadequate pasture conditions around the trading settlements, the productivity of herds belonging to poor households is extremely low.

Low productivity from marginal pastoralism and the consequent requirement to purchase food, results in most male members from poorer households having to hire themselves out as herdsmen to the richer households. The rigour and mobility required in the herding camps demands young adult male workers. There is consequently a movement of the most productive category of male labour from the poor households to the richer households. Males between 15 and 29 years of age make up only 12% of the resident male population among the poor households while they constitute up to 39% of the resident male population among the richer households. This being the case, poorer households

have less producers than consumers (e.g. poor households have 1.39 consumers per producer while the relevant figure for richer households is only 0.8 consumers per producer). This state of affairs means that the burden to provide subsistence for the dependent unproductive population falls heavily on the poor households. In other words, richer households incur little costs for the reproduction of labour but reap more benefits from that labour.

The wages paid to herders are too low to meet the subsistence needs of their households. This being the case, such households sell most or all of their immature male animals to richer households, to whom they are often indebted. The richer households will fatten the immature animals by sending them to grazing camps and sell them to commercial traders at a premium price a few years later. The poorer households thus bear all the risks of the reproduction of livestock - raising the immature animals through periods of highest mortality - while the rich households reap the profits later.

Similar processes whereby labour and livestock move from poorer, subsistence-oriented households to richer commercial-oriented households have been reported among the agro-pastoral Il-chamus Maasai of Kenya (Little 1985). Before commercialisation, the organisation of production was based on cooperative agro-pastoralism; irrigated plots of land were individually owned by each family but the labour for digging and maintaining the irrigation canal was communally provided by young men of the warrior age-set.

Due to commercialisation, the ability of wealthy stock owners to convert stock into cash changed the cooperative basis of traditional agro-pastoral production. Contemporary irrigation depends on individual investment in the form of hired labour and is thus only available to wealthier stock owners. Poor households who cannot convert stock into the cash necessary to hire labour for canal construction can only engage in rainfed agriculture. Low yields from rainfed agriculture mean that poor households have to purchase most of their grain required from richer households. To do this they have to sell more animals, a situation which threatens the viability of their small herds. In contrast, during the successive drought periods between 1966 and 1984, richer households have profited from grain sales as well as being able to withhold their own animals from the devalued livestock market. Poor households, who are neither able to produce enough grain nor to keep their livestock, become obliged to hire themselves as wage labourers to the richer households.

The similarities between this case and that of the Galole Orma are evident. Whereas commercialisation accentuated wealth differentiation based on exclusive access of the rich households to more productive herding camps in the case of the Galole Orma, commercialisation among the Il-Chamus Maasai permitted richer households to obtain exclusive access to more productive irrigated land. In both cases, there is appropriation of labour and livestock by the richer



households from poorer households, resulting in more permanent structural dependencies between the two groups.

Dahl and Hjort (1979) remark, in the context of Kenya, that such labour flows have also a national dimension in a stratified pastoral production system. Commercial ranchers profit from the 'traditional value' of unpaid pastoral family labour used in raising immatures in the drier northern pastoral areas when these immatures are sold on for fattening and final sale by commercial ranchers. In this case, there is a flow, not physically of human labour but in the value which labour contributes to commercial pastoral production. The same point is made by Bourgeot (1981) for the commercialising pastoral sector of the Sahel.

### **From In-Kind Returns to Labour to Cash Wages: the Monetisation of Labour Exchange**

As we have seen above, there is a process whereby some poorer subsistence-oriented households increasingly become marginal pastoral producers, permanently dependent on the commercialising households to whom they hire themselves as workers. Unlike in the past when labour exchanges between richer and poorer households were often generated and reinforced by social links, such exchanges are being monetarised and divorced from social links with the increasing level of commercialisation. Many commercialising households are paying herding labour in cash rather than in kind (animals and food) as was the case before.

The tendency for more commercial pastoralists to resort to hired labour is noted among the Kenyan Maasai; one study found that nearly 90% of individual Maasai ranches relied on hired labour paid in cash, with access to milk from the herd given in addition (White and Meadows 1981). As one author remarks, in a Maasai area marked by extensive marketing of livestock:

The growing number of poorer pastoralists who have few chances of building up their herds again, save through employment, or who take employment for sheer survival, has solved the labour problem for the rich families... . Thus labour, as well as livestock, is gradually acquiring a market value. (Talle 1987:73)

In west Africa, there was a rising urban demand for beef and most Fulani groups began routinely to sell cattle. Wealthier Fulani families in Cameroon, which now manage their herds almost exclusively for beef production, have accumulated herds beyond the capacity of their family labour resources and therefore came to depend on hired labour from other ethnic groups (Burnham 1980).

In the case of the Bakgalagadi cited above (Solway 1986) the cash wages for herding labour are often calculated on the basis of animal equivalents. The same is true for other societies where cash remuneration is becoming common,

such as the Galole Orma (Ensminger 1984), the Il-chamus Maasai (Little 1985), the Twareg (Swift 1979b) and the Fulani (Blench 1985).

On the surface, it may appear that there is no real change involved from in kind to cash remuneration of herding labour if the cash wages paid are equivalent to animals, but this is not the case. In the first place, unless the cash is immediately invested in the purchase of animals, it does not have the same accumulative or productive potential as live animals (Solway 1986). Many poor households find it extremely difficult to convert cash into livestock by saving their cash, especially when the wages for herding are paid on a monthly basis, i.e. the cash equivalent of one animal spread over 12 months is extremely low. If poor households cannot easily convert their cash wages into livestock they are then alienated from the only channel which they traditionally used to accumulate stock, the pre-requisite for independent production. Thus their dependence on richer households to provide herding employment assumes a certain degree of permanence.

Another reason why cash remuneration for labour places poorer households at a disadvantage is because they often lose access to the subsistence (i.e. milk) which was formerly provided by richer households' animals. Furthermore, richer households assume decreasing obligations for the upkeep of the hired herder's entire family. Other forms of traditional redistribution (such as the herd owner helping his herder to pay bride price) have also been curtailed in some cases (Ensminger 1984).

Although commercialising pastoralists still prefer, in some cases, to hire close kin rather than complete strangers (e.g. Ensminger 1984), kinship is no longer as important as it used to be in forging labour contracts between households.

The switch from familial to non-familial labour may seem surprising because rich herd-owners are more likely to have more domestic labour at their disposal, since cattle wealth will tend to ensure that prospective heirs remain attached to the family (Jerve 1981). Furthermore, other studies have emphasised the superiority of family labour over non-familial labour in terms of efficiency and trustworthiness (e.g. Morton 1989, McCabe 1988; and to some extent Toulmin 1983 and Torry 1977). One possible explanation is that due to the minimal contact between animals and people characteristic of some commercial-oriented production systems, efficiency of labour is not a very important virtue. Another reason is that since animals are herded at better pastures, distant from the settled villages, the sons and daughters of rich herd owners would rather remain in settled villages where they can take advantage of amenities such as schooling or attempting to learn the skills of management, trading and politics (Ensminger 1989, Solway 1986). Besides, generalised contact between pastoralists and the surrounding society has often led to herding acquiring a low status, an occupation seen as being suitable for poor people and the servile

classes. In western Zambia where one of the authors was raised as a pastoralist, herders are stereotyped in a negative fashion because of their close contact with beasts; they are seen to be less cultured, more likely to use swear words and insults, and lacking in intelligence.

Despite the monetarisation of labour contracts discussed above, we may not expect pre-capitalist labour relations to necessarily dissolve entirely, as is evidenced from Middle eastern pastoral societies, which have been undergoing commercialisation for a much longer period of time than most African pastoral societies. For example, it is reported that among the Qashqa'i of Iran (Beck 1980) and the Komachi of Iran (Bradburd 1980) herd owners are able to extract an amount of uncompensated labour above and beyond the labour covered by the hiring contract. This is mainly because members of the hired shepherd's household, such as wives and children, are often called upon to work for the herd-owning household. The hired shepherd is also expected to perform non-herding duties. This situation arises because the shepherd and his family are encouraged to consider themselves as members or 'children' of the employer's household.

### **Transformation of Traditional Division of Labour According to Gender and Age**

Commercialisation often leads to transformation of the traditional forms of labour division by gender and age discussed in Part I of this paper. There are two main reasons why this is the case; firstly, commercialisation involves changes in livestock output, which in turn requires re-organisation of labour division by age and gender. Secondly, commercialisation often leads to partial sedentarisation which entails new labour demands and opportunities for certain age and sex categories.

#### ***Change in Livestock Output***

As we have noted, pastoral households which turn to the commercial production and marketing of animals tend to forgo the use of live animal products such as milk, blood and draught power because the extraction of such products is incompatible with the goal of producing animals in prime condition for sale (Behnke 1987, Grandin 1988, Solway 1986, Ensminger 1984, Waters-Bayer 1988, Chavangi and Hansen 1983). One of the noticeable effects of this change in the value of output is on the involvement of pastoral women in dairying.

Reporting on Nigerian Fulani, Waters-Bayer (1988) finds that with the integration of the Fulani into commercial markets, men tend to take over milking of animals from women, thus ensuring that enough milk is left for the calf to promote growth for a beef market, while women are more interested in

extracting as much milk as they can, in order to be able to obtain more cash through sale of milk and other dairy products. This change in the division of labour leads to the loss of women's access to income and their diminished ability to control the welfare of their matri-focal household units under polygynous relationships.

With the shift of emphasis from milking to raising cattle for sale, the degree of women's labour involved in milking and dairy processing shifts also according to household wealth and level of commercialisation (Grandin 1988, Ensminger 1987, Talle 1987). Among the Kenyan Maasai, women in richer and more commercial families no longer have to milk their animals or manage their calves as intensively (Grandin 1988) while they are also in a position to pay for poorer pastoral women to carry out other household tasks (Talle 1987).

Within the literature, two divergent effects of commercialisation on women's labour are noted. Where, as is the case above, live animal marketing has come to dominate, Dahl (1987) finds that women's labour in pastoral production is devalued, since dairying is no longer emphasised; likewise, where marketing has led to pastoralists concentrating on different livestock species (from large stock to small stock which can have a higher market value), women's role in managing smallstock is diminished. However, where a strong market value for milk and/or dairy products is established, women's role may be enhanced and their labour re-focused on marketing rather than in production.

This latter effect is described by Micheal (1987) for the Baggara pastoralists of Kordofan, Sudan (see also Herren 1990, for Somali women milk marketing). Within the past thirty years in Kordofan there has been a growth of seasonal cheese factories, dependent on purchasing milk from Baggara women. These factories are the main suppliers of cheese to Sudan's urban areas, while cash income from milk sales is estimated to comprise about a quarter of pastoral family income for the Baggara (see also Kerven 1987). Micheal comments that although it is men who sell cattle and that men recognise that milk is important for herd growth, the increasing urban demand for milk and milk products has meant that women's traditional labour in controlling milk output from the herd has been transferred into their control of milk marketing.

The reverse effect on women's labour is also found, for example, among settled Maasai in Tanzania (Ndagala 1982) where the establishment of a commercial milk collection centre led to men taking over the control of milk, which had gained a cash value. Dahl (1987) concludes from Middle Eastern pastoral systems in which dairy marketing now dominates, that men generally take over household dairy marketing, in order to retain control of the income. In their survey on the role of women in various pastoral societies, Chavangi and Hansen (1983) find that in instances where the process of commercialisation is accompanied by the setting up of co-operatives as well as milk collection and processing centres, women's traditional role in the processing and sale of dairy

products is usurped by commercial processing plants. At the same time, women cannot get employment in these plants because they lack the literacy demanded by new production methods.

### *Partial Sedentarisation*

Commercialising households tend to become less mobile, or even to settle in permanent villages and trading centres, while maintaining a herd at a distant cattle post where pastures are better and where extraction for subsistence can be minimised (Grandin 1988, Ensminger 1984 and 1987, Talle 1987, Solway 1986). Sedentarisation can provide new opportunities for labour which compete with or substitute for the traditional roles assigned on the basis of gender and age (Merryman 1980, Ensminger 1987, Salih 1985, Chavangi and Hansen 1983).

Pastoral women who settle (either with or without their families) have considerable access to new economic opportunities while at the same time, may have less responsibilities towards the family's livestock, compared with women in the nomadic sector. In the case of the Galole Orma (Ensminger 1984, 1987) many women who settle, especially wives of commercialising livestock owners, engage in enterprises such as bread-making, to earn money. The wider economic opportunities available to settled pastoral women has also been reported by Merryman for Somalis (1988) and for a Maasai sub-group in Kenya (Herren 1988).

Again, whether or not a pastoral women's quality and quantity of labour is significantly altered as a consequence of commercialisation will depend on her position within the socio-economic strata; in Ensminger's study (1987) women in wealthier families whose concern is with sales of animals will benefit from settling in trading centres since they can then control the labour of children and young adults because they are no longer assigned tasks outside the home. Many such women tend to forbid their sons from herding or taking part in long distance migration, forcing husbands to contract hired herders for these duties. The wealthy women do not want their sons to go into cattle camps because of the rigour of life there and also because they need to keep their closest allies nearby, as well as enabling the sons to attend school. Poor women in centres, who as we have seen, lose their sons to richer households (where they are employed as hired labourers) will not only be economically disadvantaged but they will also be politically isolated from the male information networks concerning the movement of traders, prices, taxes etc. This being the case, poor women cannot adequately take advantage of the trading opportunities available in the trading centres.

### **Decreased Ratio of Labour to Livestock**

Commercialising households can, or are forced to, decrease the ratio of labour to livestock; large-scale operations use less herding labour as animals no longer have to be as carefully managed for subsistence purposes (Behnke 1983, Dahl and Hjort 1979). Such operations also adopt new herding techniques and husbandry practices and are in a position to do so because they reinvest profits from increased animal sales into production (Bourgeot 1981). The adoption of these new production practises in turn has a further impact on the utilisation of human labour (Solway 1986, Jerve 1981, Ensminger 1984).

In the commercialising pastoral sector of Kenya, ranchers can operate with a much lower ratio of labour to livestock than the family-labour-based pastoral societies within Kenya as the ranching operations depend on the latter to carry out the labour-intensive tasks of raising calves, later sold as immatures to ranches for fattening (Dahl and Hjort 1979).

It is important to distinguish here between the ratio of labour to stock (i.e. the number of animals that can be managed by a single person) and the absolute quantity of labour required for commercial as compared to subsistence pastoral production. Some studies find that as herd owners are able to accumulate larger herds through profiting from livestock sales, demand for labour by these herd owners can outstrip the supply available within that particular pastoral society (Bourgeot 1981, Solway 1986).

Among the Bakgalagadi of Botswana, cash from cattle sales has allowed the wealthy sector of the society to increasingly invest in pump-driven boreholes to water their animals (Solway 1986, Jerve 1981). In addition to ensuring water supplies in a drought-prone environment, boreholes also reduce the need for labour, which is in short supply in rural Botswana due to the attractiveness of out-migration for wage employment. The wide-scale adoption of boreholes has led to decreased labour inputs per livestock unit due to the following reasons:

- Labour constraints associated with the traditional method of watering animals from hand wells are alleviated.
- The ready availability of water decreases the necessity for herd mobility. This reduces the labour burden of having to constantly move animals in search of water and pasture.

There are profound effects of replacing labour with capital-intensive equipment in commercial livestock management. Among the Bakgalagadi in the past, although wells were individually-owned the circle of people who use such wells extended beyond the well-owning group. However, because of the massive cash outlays required to install and maintain a pump, boreholes belong to a different category of property from that of hand-wells. Watering rights at privately-owned boreholes have become commoditised. The more commercialised herd owners

are restricting access of close relatives to their boreholes in favour of individuals willing to enter a more formal commoditised relationship. The installation of boreholes therefore erodes the traditional networks of reciprocity and kin cooperation (Solway 1986).

Certain livestock-related tasks are curtailed when the goals of production change to commercialisation. A case in point is that the reduced necessity to extract milk and other subsistence products among commercial-oriented producers means that in some cases, cattle do no longer have to be closely herded. This is the case in Botswana where open range ranching became more important during the 1970s (Behnke 1983). In such instances livestock are supervised to merely keep them out of trouble. Whenever there is no threat of predators or danger of trespass on fields containing crops, the animals are left to roam and periodically collected when need arises. Technical innovations such as boreholes also decrease the need for labour, as is shown also in the case of commercialising Fulani in Senegal where availability of government boreholes has encouraged a reduction of nomadism; cattle can obtain water on their own and need less attention (Sutter 1987, Toure 1990). Abdullahi (1990) provides an additional example from central Somalia where labour requirements for herding were diminished by the private enclosure of communal rangeland, such that livestock could be left to graze in private enclosures.

The ability of pastoral households to reduce the ratio of labour needed to tend livestock managed for sale rather than for subsistence, combined with new technical inputs such as boreholes (often funded from the proceeds of livestock sales, or installed by governments as part of a policy to increase offtake) means that the equilibrium between herd and family size no longer has to be maintained (Burnham 1980, Sutter 1987). Goods and services, in particular labour, which previously could only be obtained from within the pastoral system can now be bought with cash from sales of livestock outside the system; accumulation of herds with the aim of marketing surplus animals is no longer impeded by labour constraints which previously could only be overcome by redistributing surplus livestock or livestock products.

### **Loss of Labour Caused by Out-Migration from Poorer, Less Commercial Households**

We have seen earlier that commercialisation can lead to displacement of labour from poorer, subsistence-oriented pastoral households.

However, in some instances displaced labour from households which are unable to successfully commercialise is redeployed into migratory wage employment outside the pastoral sector (Abdullahi 1990, Illaco 1981, Merryman 1988, Morton 1989, Waller 1977, Hatfield 1977).

This loss of a work force of course further reduces the productive capacity of poorer households, which may then migrate away altogether. Such a situation is described in the case of central Somalia (Abdullahi 1990), an area which has long been involved in livestock marketing and export to the Arabian Gulf, particularly since the 1950s Gulf oil boom.

Firstly, commercialisation is shown to be highly correlated with herd, flock and household size; only those households owning flocks and herds above a minimum threshold required for subsistence can continue to sell stock profitably, without reducing their subsistence and stock-breeding base. And only those households with sufficient labour (reflected in household size) can properly manage larger herds. Secondly, smaller herd owners also cannot pursue effective marketing strategies which would allow them to accumulate wealth, principally because they must sell stock under duress to meet household food requirements, and cannot exploit the optimum market opportunities in the same manner as larger herd owners. Poorer families thus find that terms of trade between livestock and food commodities are against them. Thirdly, poor households are losing control over large tracts of previously communally-held rangeland which is being enclosed by richer commercially-oriented households (see also Behnke 1983).

Two other factors combine with the above to render poorer households more prone to sending their young men away to work. With commercialisation has come social stratification and a weakening of traditional group cooperation in managing livestock; this has decreased the ability of smaller households (with fewer able-bodied members) to herd and water their stock - particularly camels, which have a heavy labour demand. Studies in other pastoral areas have also noted the tendency of labour-constrained poor households to give up camels and cattle in favour of small stock (Salih 1985, Herren 1988, Dahl and Sandford 1978). As was noted above, labour availability is linked to herd/flock size within households. Thus, as inter-household labour arrangements give way to individual household responsibility for managing livestock, households without adequate labour will be less able to cope. The second factor has been the increasing wage work opportunities in the Gulf states, for young men, which has led to a drain of this age and sex labour category away from pastoral households. Abdullahi's study concludes that:

economic factors of limited resource bases and disadvantageous relative prices [for livestock and food commodities] oust family members or entire families with small herds from pastoral areas. The free labour potential of these household groups, however, can only be absorbed to a very limited extent within the pastoral sector. (1990:207)



## CONCLUSIONS

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To what extent can we depict any general patterns in the organisation of labour, when pastoralists commercialise? Do the mechanisms for adjusting labour supplies to demands that characterise pre-commercial systems persist in the same forms, are they altered or abandoned when, as has been argued, the logic of production changes? The findings from this review indicate that qualitative and quantitative changes do occur, as summarised below. One of the principle patterns appears to be a reduction of familiarly-defined labour exchanges in favour of individual labour transactions.

We have shown, in the first section, that in pre-commercial pastoral systems labour and livestock (and livestock products) are exchanged between households consistently within a matrix of kinship relations, either between actual or fictive kin. Thus, when a pastoral household 'adopts' a child to help with herding, or establishes a stock associateship or a patron-client relationship, these arrangements are modelled on cultural definitions of kinship. The implication is that a long-term bond of commitment between the parties exchanging labour and livestock is created - although the bond may be between partners of unequal livestock wealth or social status either in the short or long term, the cultural expectation is that of long-term obligations from both parties, as in the case of kinship ties.

Under conditions of commercialisation, the quality of the relationship between those providing labour to those owning livestock tends to be pared down to one of limited contract between parties, with no necessary implication of long-term commitment once the contract is completed. This is evident in the curtailment of inter-familial herding cooperation, removal of livestock and their products from reciprocal circuits, increasing use of hired labour, and the monetarisation of social relations including those involving labour transfers. A second pattern which can be discerned is connected with the above; within those societies which have not been hierarchically structured in the past, as the long-term reciprocal bonds expressed in exchanges of livestock and labour recede between individuals, entire families find themselves more permanently in an unequal position of supplying labour to other families. Labour-suppliers and labour-receivers begin to remain constant over time, rather than moving through these roles over time as in the past. Hence we see a process of social stratification unfolding, based on differential access to labour and livestock, comparable in part to the stratified social systems of the Sahel, and also of course comparable to modern ranching.

Thirdly, when livestock acquire a market value, only those families which are able to accumulate stock to the point of commercial viability can retain their own family labour within pastoralism, over time. Families which, for whatever reason, find themselves lacking resources can no longer depend on temporarily deploying some of their labour into other families' pastoral production in the expectation of building up their own stock through exchange and redistribution. This option is contracting, as wealthier stock owners seek to detach themselves from the networks of social obligations which formerly served to restore family viability. At the same time, the continuing or expanding labour demands of some wealthier commercial stock owners creates a market for the labour from poorer families, but on very different terms than in the past. There may remain labour which is effectively surplus, from those families which lack sufficient stock to support themselves independently - when this surplus labour cannot be absorbed into pastoralism there is often a niche in the economy outside of the pastoral sector. In sum, commercialisation leads to a net outflow of labour from marginal pastoral households because such labour must either be redeployed into wage labour, herding for richer households, or outside the pastoral sector through out-migration or into subsistence agriculture and petty trading.

A further trend which can be observed is the changing value of male versus female labour in pastoralism. In the past it was often noted that it was the availability of female labour which set the upper limit to an individual pastoralist's herd size, for without women to milk the main value of the herd (or flock) could not be realised (see for example Stenning 1958). But commercialising pastoralists require more herding labour - traditionally a male role - and less female labour for dairying. Where a commercial market for pastoral dairy products has not developed, and even in some cases where this has happened, female pastoral labour is therefore devalued.

It has been the contention of this paper that capital realised through stock sales can and does substitute for the direct role of livestock in mobilising extra-household labour (see also Baker 1980). But it is evident that when livestock acquire a market value, this change does not fully apply to the value of labour in the first instance. Commercialising African pastoralists can still, in many cases, continue to depend on labour valued in subsistence terms although the relationship between herd owner and labourer has altered. To some extent, one can say that commercialising African pastoralists are profiting on borrowed time, due to the lag effect between the market value of livestock versus pastoral labour. In the mean time, the relatively low value of pastoral labour naturally augments the incentive to commercialise if one can successfully do so. The ability to make this transition is dependent in large measure on whether the commercial market for livestock products can pay higher prices to the pastoral sector. In the long run, it will be the incentive for pastoralists to commercialise which is likely to raise the value of pastoral labour, as more and more

commercial herd owners compete for labour which may become scarcer since wage employment within the pastoral sector is not, in many cases, the final resort.

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