

Abstract

Among the Nuer pastoralists of southern Sudan, women's work in subsistence production has been substantial. The paper explores the ways in which women's work had changed by the 1970s in response to increased male labor migration and to local income-earning opportunities. Women's work is analyzed in relation to the role of rural production in the social reproduction of the national labor force. Special attention is given to the impact of health conditions and the consequent effects on reproduction, including the reproductive histories of 89 women in the center Nuer area.

About the Author

Ellen Gruenbaum is Associate Professor of Anthropology and Director of the Women's Studies Program at California State University, San Bernardino. She spent five years in Sudan in the 1970s and returned for follow-up research in 1989. She is currently writing a book on rural women in Sudan.

Nuer Women in Southern Sudan: Health, Reproduction, and Work

by

**Ellen
Gruenbaum**

California State
University,
San Bernardino

Women and International Development
Michigan State University
202 International Center, East Lansing, MI 48824-1035
Phone: 517/353-5040; Fax: 517/432-4845
E-mail: wid@msu.edu; Web: <http://www.isp.msu.edu/WID/>

Working Paper
#215
September 1990

NUER WOMEN IN SOUTHERN SUDAN: HEALTH, REPRODUCTION, AND WORK

Feminist researchers' attempts to analyze the social importance of women's work have led to a radical rethinking of economic categories, such as wage labor versus private, domestic labor. The analyses which leave women's work invisible serve, in effect, as ideological justifications for women's subordination. Economic analyses that devalue major portions of women's activities and that ignore the social structures which pressure women into situations where others (husbands, employers, etc.) benefit from their work, contribute to the attempt to justify continued discrimination against women. As an added problem, Third World women frequently share the burden of multiple oppressions with women of oppressed minority groups in the industrial countries. Whenever the subordination of women is coupled with domination of their communities, social classes, or countries by the powerful international forces (colonialism and the post-colonial imperialism are evident in the growing economic imbalance between the rich and the poor countries), the result is a form of subordination which is more than simply the sum of the two.

In this paper this issue is explored in relation to the situation of the transhumant pastoralist¹ Nuer women of southern Sudan. Like other rural women of poor countries in Africa, Nuer women have had their labor rendered virtually invisible in economic analyses. Despite the fact that women's contributions have been recognized in traditional cultural forms--such as the bridewealth cattle transfers (from groom's family to bride's family) in recognition of transfer of her labor and reproductive abilities to the groom's lineage--shifts in the context in which Nuer productive activities operate have begun to change the lives, as well as the cultural values,² of the Nuer. Specifically, by the 1970s the Nuer, while preserving their pastoral way of life, had become involved in periodic male labor migration which affected women's productive and reproductive work. Further, even prior to the escalation of the civil war in the 1980s, infant and child mortality rates were high and possibly increasing, a factor likely to have an impact on reproductive choices.

This analysis of the particular form women's oppression has taken in the Nuer situation is intended to contribute to a better understanding of (1) the relationship between women's productive and reproductive labor, including the impact of health conditions, and (2) the incorporation of subsistence work into an international relationship which is tied to the industrial countries. Such analyses of women's situations in rural African communities are important not only to promote the feminist goal of fashioning links with women internationally and ensuring that social justice and global survival are incorporated into the feminist program, but also because it contains lessons for understanding the general problem of the invisibility of women's labor. In particular, the way in which women's subsistence work--and even women's work in reproduction--has become embedded in new and more complex socio-

economic systems, ultimately linked to the global market on which developed countries depend, offers an opportunity to improve the general analysis of the transformation of women's oppression in recent times. While it is beyond the scope of this paper to develop that general analysis, the discussion of Nuer women's situation in this paper is intended to contribute to that endeavor.

The other contribution to be made is to international development studies. Women's subordination and the concomitant patterns of work and reproduction which embody and reinforce that subordination in rural Third World communities commonly form the substrate on which the more recognized forms of exploitation feed. This is true not only in the sense that discrimination against women and patriarchal control of women's lives might result in very low costs to buyers of peasant-produced commodities or in very low wages for young women who go to work in factories (where such exploitation may result in much higher rates of profits for employers, see Fuentes and Ehrenreich 1985), but also for women involved in pastoralism and horticulture, as is true of the Nuer women. Although the latter appears as subsistence production, it is a necessary factor in the entire labor supply system of the economy. As such, women's "subsistence" labor contributes to the profitability of investment elsewhere where wage labor is employed.

In the following section I develop a theoretical argument concerning rural productive and reproductive labor, which is then applied to the results of my ethnographic research in the central Nuer area in the subsequent sections of this paper. Following this analysis I examine the ways in which socioeconomic pressures for high fertility are related both to the economy and to local health conditions, using data from my survey of the reproductive histories of Nuer women. Lastly, I consider the future prospects for this region.

THEORETICAL BACKGROUND

The problem of developing countries is not one of being behind and needing to catch up with the industrial countries, but rather one of differential opportunities to get access to the necessary resources and technology for market competition and self-determination. Simply stated, a relationship exists between the rich getting richer and the poor getting poorer; this is based on the centuries of resource drain (from the present day poor countries to the now rich countries) which financed the technological and military development through the continuing accumulation of enormous wealth in the hands of a relatively small number of individuals and corporations in the developed countries.

While that basic understanding was the starting point for research, the research design for the Nuer study was influenced by the feminist critique of domestic work in industrial countries.

Benston (1969) argued that women's role in housework, which provided the conditions for the rest and recuperation of male workers, as well as in reproduction, socialization, and care of children, was essentially a necessary but uncalculated input of the economic system, not simply a "private service" as it would appear on the surface. Benston suggested that the male worker who is paid a wage that supports a family could be viewed as actually being paid for not only his public work but also his wife's "private" domestic work, without which the worker's productive capacity and the future supply of labor to the system would be diminished. Women's domestic work is therefore vital to the economy's functioning, and should be analyzed in terms of its connection to wage labor.

In the situation of underdeveloped countries, the work done by peasants and pastoralists in getting much of their own subsistence from "nature" can be analyzed in a similar way: depending on whether they engage in occasional wage labor or market peasant products, they are making it possible (1) for employers to hire them at a much lower wage than would be necessary if they had to purchase all their necessities and provide, out of wages, for their families' immediate support, not to mention retirement, unemployment, and health benefits, or (2) for investors to obtain their surplus products at lower prices. In either case, a new generation of workers/producers is made available to the system without having to pay for the costs of their support. Such reproduction of living humans and of the working capacity of individuals is clearly a necessity for the long-term accumulation of wealth (or "extended reproduction" in Marxist terminology) in the capitalist system (Bennholdt-Thomsen 1981:41-42; see also Beneria and Sen 1981; Deere 1982; O'Brien 1979). And yet even in political economy, analyses have not given adequate attention to subsistence production: Veronika Bennholdt-Thomsen claims it has been assumed incorrectly to be "given by nature," whereas it should be understood that "nature is appropriated by means of work, in both production and the reproduction of human life" (1981:42).

This last point needs to be emphasized. That pregnancy, childbirth, breast-feeding (including providing additional nutrition), and child-rearing are work that deserves greater attention than it has been given, not to mention sexuality itself, which may require considerable psychological and physical effort in situations where mutual pleasure is not the motivation. This is particularly important for rural Third World women, who are often particularly motivated to have a number of children to help with work and provide for long-term family security (as well as for emotional and social role fulfillment). As Jean Davison argues: "To leave out procreative tasks in a discussion of gender relations of production is to ignore significant aspects of African women's productive lives. Much of women's adult lives is spent in child-bearing and child-rearing for the benefit of household production" (1988:3).

Also, since biological reproduction is often conducted in conditions of poverty and poor health which increase the rates of infant and child mortality, health conditions become relevant to the analysis of the work women must do to achieve reproductive goals. Anticipation of deaths and ill-health for a proportion of one's children can be expected to contribute to upward pressure on birth rates, thereby adding to the burden of women's subsistence work.

This analysis implies a critique of the conventional wisdom, and emphasizes that any effort to address the need for rural development in the Third World must be sensitive to the productive and reproductive work women are already doing if proposals for further involvement of women in income-generating activities are to be feasible and appropriate.

Too often this needed sensitivity has been lacking. For example, an International Labour Organization study published in 1975 reported that 87 percent of the female population age 15 and over in what was then the Upper Nile Province of southern Sudan were "not economically active" (Mills 1975). However, during my research in 1976 on women's roles and on health services in the Central Nuer area of the province,³ it was not entirely surprising to find few women sitting idle. Even the classical ethnographies of the Nuer, while not inquiring into the sexual division of labor in any great detail (see e.g., Burton 1982:469n), do mention women and children carrying out various tasks (milking cows, gardening) which would fall under an anthropologist's definition of economic activities (Evans-Pritchard 1951; Seligman and Seligman 1932).

Mainstream economists and planners, though, have left such work out of economic statistics, subsuming it under the rubric of "traditional" or "subsistence sector." Such analysts thereby avoid calculating the contribution of work which does not produce commodities, although the value of potential commodities (i.e., products which might be marketable if the opportunity were made available--typically products of men's work) often were estimated. For example, technically it has not been considered an economic activity when women pound, winnow, and grind grain in their courtyards, despite the hours of work and added usefulness of the product, while processing grain at a flour mill has been considered an economic activity.

In Sudan, as in many countries of Africa, the connection between public work and domestic work is masked in an additional way by the geographical displacement resulting from labor migration. Wage labor is employed in certain sectors of the economy, while large regions appear to rely mostly on direct production for use. However, the two are actually integrated. Large numbers of rural people migrate (seasonally or for longer terms) to obtain cash for taxes, commodities, cattle purchases, or other cash needs, while still remaining firmly rooted, in the long

term, to their home communities. Yet instead of analyzing this connection it has been common for analysts, following Boeke (1953), to employ dualist terminologies: the rural sending village is part of a "traditional" or "subsistence sector" while the receiving other is considered "modern," the "developing sector," or the "cash economy." Such dualist theories have been the basis for much of the economic planning carried out by Sudan planning agencies and such international organizations as the International Labour Organization and the World Bank. The fact that what appears to be two sectors is actually integrated by the phenomenon of labor migration (as well as trade) is commonly ignored by mainstream development economists who tend to view labor as a factor of production--an input--whose source and reproduction are not part of the calculation, almost as if the labor were a natural resource that could be gotten when needed or left untended when not needed.

If the present critique is applied to the dualist terminology, it can be said that for the modern sector to continue to have laborers available, the subsistence sector must function much as the domestic sphere does in an industrial economy: communities in the subsistence sector provide for the rest and recuperation of workers and for the reproduction and socialization of the new generation of workers. Unlike the situation of many--though by no means all--workers in the industrial countries, the wage of the migrant is not expected to support the worker's spouse or the reproduction and socialization of the next generation of workers. Nor is it adequate to provide for the worker in times of ill health, unemployment, or old age: these are left to the subsistence sector community, where the basic needs of women, children, old people, the unemployed, and the sick are met through local production. This arrangement offers an advantage to employers by keeping wage rates much lower than would be necessary if the family were supported and fringe benefits paid. It requires, though, some rearrangement of labor in the home community to compensate for the absence of a significant number of adults.

This theoretical orientation is used to analyze how Nuer women's dual roles--in production and in sexual and social reproduction--interacted and how they were affected by labor migration.

THE NUER

Since ancient times, the peoples of southern Sudan have been peripherally connected to the civilizations of the Nile Valley and the Arab world. The slave trade, as well as trade in ivory and other commodities, probably contributed to the early adoption of metal-working and militarily effective forms of social organization. Although the British conquered Sudan in 1898, the Nuer were able to resist until 1928, aided by their remote location in the upper Nile valley (south of the confluence of the rivers

that form the White Nile) and their harsh environment of extensive swamps, seasonally flooded grasslands, intense heat, and abundant insects.

While some earlier observations were published, more extensive ethnographic research on the Nuer was conducted in the 1930s and 1940s. Most notably, the Nuer were studied extensively by anthropologist E.E. Evans-Pritchard, who wrote several detailed books on their cultural adaptation. Although there is, then, a large ethnographic literature on the Nuer, very little recent data have been available due to the civil war which lasted from 1955 (just before Independence) until 1972. A few projects were carried out before the region again became inaccessible to research in the 1980s with the escalation of a new civil war. These include historical research by Douglas Johnson (1988), ethnographic work by Sharon Hutchinson (1985, 1988), and the research of the Sudanese Jonglei research team (of which I was a member).

Both before and after independence, southern Sudan was not well integrated into the Sudanese nation. Differing in ethnicity and religion from the majority of Sudanese in the north (a situation exacerbated by British educational and missionary policies), southern Sudan in addition was economically disadvantaged, receiving little in the way of development investment or government services. One result was that the Nuer, like many rural southern Sudanese, received less direct interference in their traditional ways of life in their home areas.

To approach a Nuer homestead or cattle camp across the sunny open savannah, it can seem to the outsider as if life there must not have changed for a hundred years. In the Sudanese Jonglei research team's travels to Nuer homesteads in 1976, it was not uncommon to be offered a gourd of water from a family's shallow dugout reservoir by a Nuer woman wearing the traditional leather skirt and a necklace of ostrich eggshell beads. If it was very hot we were often invited into the cool, dark interior of the mud-plastered, thickly thatched round cattle barn. Many women we visited smoked home-grown tobacco in clay pipes with two-foot stems. Their possessions were few and mostly locally made, and many went without sandals on the blistering paths, their feet calloused against thorns. Most Nuer women knew only a few words of the national language, Arabic.

But while the Nuer continued to utilize traditional house styles, dress, values, skills, and activities, they were no longer the independent, isolated people portrayed by Evans-Pritchard--if indeed they ever were.⁴ In fact, they have now become integrated into the national economy in several ways which, though not dramatically manifested in their home areas, have had profound impacts on their way of life.

All over Khartoum and several other towns of the northern part of the country, one can see encampments of men from the Nuer and the closely related Dinka ethnic groups living at construction sites where they are employed as construction laborers. Women rarely migrated before the 1980s when the civil war and its economic disruptions forced many to become refugees. The typical pattern we encountered was for men to come for a season or for two to five years, then to return with their savings to their home areas (Kameir 1980:467). Many of the mature men in the Nuer villages had spent some time in the North engaged in such work, or in seasonal agricultural labor on development projects, usually prior to marriage.

WOMEN'S PRODUCTIVE ROLES AND THE IMPACT OF MALE LABOR MIGRATION

The links between the Nuer and the national economy have had an impact upon women's activities in a number of ways. (The use of the past tense for these descriptions reflects their grounding in observations I made in the 1970s as well as in the ethnographic record based on earlier observations, especially Evans-Pritchard's work in the 1930s (1940, 1951). Many such patterns may well continue; past tense should not be taken to imply that these observations no longer are applicable, though indeed the present economic and military conditions have caused significant disruptions.)

Subsistence production. All able-bodied adults participate in horticultural and pastoral work, with a somewhat flexible division of labor. Commonly, each adult hand-cultivated (with hoes or digging sticks) his or her own plot of about one acre or less (by our estimates) and grew sorghum as a staple crop and also maize, tobacco, and vegetables.

Although the produce was used for family subsistence, rights over use of the crop were controlled by the person who owned the field, especially if a cash crop was produced. In practice, crops were shared over a wide network of kin and neighbors (both as grain and as cooked food) through hospitality and sharing in time of need. If a household was large enough, a new married woman could delay beginning her own garden until after one or two children were born. Elderly people continued to cultivate their own gardens as long as they were physically able.

Men and women ordinarily participated together in the intensive and laborious work of clearing, weeding, and harvesting, by using a system of cooperative labor parties. The person whose field it was provided the locally-made sorghum beer, which is thick and nutritious as well as a mildly intoxicating refreshment. (When young people, who were said to be disdainful of beer, were involved, food was provided.) Since beer was made only by women, women brewed for their husbands' labor parties as well as their own.

Animal production (primarily dairy products), like horticulture, was largely for subsistence. By far the most valued and numerous animals kept were the humped, Zebu cattle, which were well suited to the area's climate and pests. A few goats (for milk and meat) and chickens (for meat but not eggs) were also kept. Cattle were used neither for traction nor transport.

Most cattle were the property of men, but since the cattle of a family or extended family were usually herded together the question of ownership, although well defined, did not determine ordinary day-to-day use. A woman could use the milk from her husband's cows or goats or she might borrow and care for a milk cow from a relative to provide for her children. The milk and products she made from it were hers to use, though she had no disposal rights over the animal.

The division of labor in daily pastoral activities was of necessity somewhat flexible, the allocation of tasks varying with household composition and seasonal changes in population composition of camps and villages. The milking of cows and any goats was usually done by women or girls, or rarely by uninitiated boys. Men did not consider it appropriate to milk, since it was considered women's work.⁵ Both men and women participated in the onerous work of drawing water from dry season wells to water the animals. Less frequent tasks such as spearing an animal for sacrifice or castrating calves were left to men.

Daily herding under normal circumstances did not require intensive effort, as cattle were permitted to graze unsupervised on the flat terrain or were accompanied by one young man who kept an eye on the cattle of several households. The supervision of calves, driven out to graze separately, was left mainly to boys or girls. Since the calves must be separated from their mothers (and kept from nursing), this task required effort and vigilance, especially when the mature herd came to drink at watering places. Tethering cattle for the night, rubbing their hides with ashes to clean them, and preparing smoke fires to protect them from insects were the other daily tasks, done by adults or children, men or women.

In the cultural and ecological situation of the Central Nuer, innumerable tasks were necessary to provide the food, tools, craft products, and services needed for subsistence; some of these were sex-specific. The discussion here is limited to those tasks which seem to be the most vital or time-consuming, or which have the potential of being transformed from subsistence to commodity production.

Women did most of the food processing and preparation. The most laborious and repetitive tasks were souring and churning milk into liquid butter (in gourds) and processing grain by using wooden mortars and pestles and simple grindstones. Such work was

compatible with ongoing child care and often done in the company of other women, who shared conversation and singing while taking turns with the gourd or pestle. Grain was processed every few days as a prelude to preparation of meals which were usually sorghum or maize porridge, served with yogurt, liquid butter, or a stew. A much larger quantity of grain, requiring perhaps several hours of arduous work, was processed on the less frequent occasions when sorghum beer was to be brewed.

The gathering and processing of wild vegetable foods, such as the dry date-like fruit known as lalob, was done by women and children. While not usually a large part of the diet, such foods added variety to the otherwise bland and repetitive diet. Gathered foods were also said to have prevented starvation in years of disasters such as epizootics or cattle disease, floods, and crop failures. Women were also responsible for collecting firewood and dry stalks for cooking fires, cleaning, clothes washing, and much of the child care, as well as carrying water from dry season wells or pools to the scattered homesteads or cattle camps. In all of these tasks, women were assisted by children, especially older girls.

Hunting had not been a regular, organized activity in recent times, but men always carried spears in case they should happen upon some game such as gazelle or antelope, or in case they should need to defend themselves against predators or enemies. Elephants and giraffes had been hunted in the past--the Nuer were no doubt involved in the centuries-old trade in ivory and ostrich feathers--but in recent times such hunting had been prohibited (in any case the elephants and giraffes are now rare). Most hunting which the research team identified in the 1970s was monopolized by those who were entitled to own guns, such as police and certain government officials.

Both sexes engaged in numerous building and manufacturing activities. Both women and men were seen digging foundations, setting posts for houses, and binding together the structure which would later be mud-plastered and thatched. Both women and men as part of cooperative labor parties, engaged in cutting and carrying thatch from sometimes quite distant grasslands, for use on their own houses or more recently to sell it. Some women were skilled at decorative layered thatching of dwellings, but this was more common among the Dinka south of the area. Women made their own rope, repaired clothing, and made and repaired many household items such as gourds, pots, packets, and beer sieves. Men similarly manufactured items related to their needs and abilities, such as wooden head rests, sleeping hides, spear shafts, and ornaments. Some craft specialization in metal-working and pottery-making was practiced traditionally and was still being done during the 1970s.

Women's local cash-earning opportunities. Since women's roles in the production of subsistence provided them with control over

their production, women were able to take advantage of opportunities to use some of this produce for exchange. As opportunities for spending cash, a need for cash, and markets for local products increased, women could increase production in their individual gardens if they had sufficient energy and assistance, so long as the subsistence needs of other household members could be met. Family structure and residence patterns were such that some families included more than one consumption unit, for example, when a man had more than one wife and each lived on a separate homestead (which was not unusual); such arrangements allowed for greater individual control over disposal of the crop. Particularly when the harvest was good, a woman was able to decide to use a portion of her grain in some way other than direct consumption; for example, she could brew beer for sale or give it to kin or neighbors in need.

Brewing sorghum beer for sale, an outgrowth of women's traditional work, was the most common cash-earning activity of women of the area in the 1970s. It involved a lengthy process of soaking and sprouting, pounding and grinding, cooking and straining, as well as making basketry sieves, collecting firewood, and carrying water. If a woman wanted to make more than she could carry in a clay pot on her head, she, together with her children or kinswomen to assist her, traveled to the sale site to brew, staying several days or even a month.

Brewing for sale requires sufficient demand. Thus the shade trees where people gathered to buy, sell, and consume the beer were usually located adjacent to villages where there were a number of people with cash incomes (such as local government officials) who provided the necessary purchasing power through the cash they put into circulation. The beer trade was said to have died out during the worst of the 1955-1972 civil war when trade and salaries were interrupted, but during fieldwork each of the court centers in the central Nuer area had a beer center, as did one other village where there was a merchant but not court. Larger settlements such as Ayod, where salaried government employees were posted, were preferred, and near the main road there were certain trees where people still sometimes came to sell, on an irregular basis.

Although at some beer centers sellers had to pay a daily fee (equivalent to the price of two servings), the maintenance of order by the local police was a big advantage, since a brewer could be held liable if drunken behavior were to lead to fights and injuries. Although most brewing still was being done by farming women during the two months I lived in Ayod in 1976, the wives of salaried police, who could afford to buy sorghum for brewing, had begun to take greater interest in brewing; they were attempting to purchase an oil barrel to make larger quantities. The potential for beer trade expansion could be seen in Kongor, a Dinka village about 70 miles south on the same dirt road, in Adong (Sobat Rural Council), and Atar Ardeiba (Fangak Rural Council). In those places

I visited several established brewing houses run by local women. Both the entrepreneurs and local officials stated that the women had to be licensed, pay taxes, and have occasional medical examinations and public health inspections. Each entrepreneur maintained her own building and equipment, often subletting the facility to other women who brewed their own sorghum in batches of one or two barrels. This necessitated hiring other women as assistants.

In Ayod, one license had been issued to run such a brew-house (endaya), and the license holder had begun to charge fees to anyone who used the facility. Although expansion of the trade in Ayod seemed likely, brewing was still said to be common only in the months following harvest when grain was still available. Idle drinkers were likely to be attracted only during the dry season when there was less pressing work to do and when most of the cattle were away at dry season camps.

Animal and dairy production offers another possibility for earning cash as a modification of women's traditional subsistence activities. In the past, Nuer pastoralists had not been reliant on trading or selling animals to obtain grain, as have the nomadic pastoralists of more arid zones farther north. In fact, there were strong cultural impediments both to butchering cattle, except when sanctioned by the need for ritual sacrifice, and to selling, except out of dire necessity. In the colonial period some trade in hides and other animal products had been developed. More recently, cattle trade was increasing due to the demand for meat in urban markets, the need for cash for fines and taxes, and the demand from some Nuer to purchase cattle with their earnings from migrant labor (see Hutchinson 1988).

Though not directly involved in cattle sales or purchases, women's work was affected by the desire to enlarge herds, and their role in dairying gave them the opportunity to sell milk in the form of liquid butter. A woman could keep the income, though a share would be given to her husband or kinsman who took it to sell at market, a role which was considered men's.

Virtually all adults smoked pipes, so tobacco was found in every garden. Since tobacco from this area was considered quite choice, there was a ready market for it in the towns, and people often grew extra tobacco as a small-scale cash crop. Women usually processed it into fermented cakes or supervised the slow shade drying process. Processed tobacco being low in volume and weight, one person could transport and sell the products of several others, in bulk or by the piece in town markets. The income from each person's tobacco was his or her own, but it was usually the men who marketed it and thus received an extra share of the proceeds. Some families reported that they met all their cash needs in this way.

Women engaged in other cash-earning activities according to individual skills, availability of local materials, and market demand, for example, thatch-cutting for sale, pottery-making, and fish-drying (cooperatively with men who fished). Other specialized part-time trades (blacksmithing, woodcutting, pipemaking, thatching for hire) were usually done by men; although there was not an explicit barrier to women engaging in such activities, apparently it was men more often than women who had the time to do these things.

Women who served as traditional midwives or curers were said to perform their services gratis, though they might receive small in-kind or cash gifts.⁶

In sum, Nuer women demonstrated capabilities and considerable interest in working as independent commodity producers and in engaging in trade and services, particularly in those activities which are outgrowths of women's usual subsistence and domestic tasks. That women might well be expected to pursue other opportunities when available is suggested by the fact that a few women had obtained jobs locally, such as cleaning and cooking for the school in Magogh. The research team was approached by a number of women looking for employment. But wage labor opportunities for women were extremely few in this area. Men seeking wage labor pursued the option of migration, but at that time--prior to the renewal of the civil war--there was no evidence of women migrating out of the area for wage labor, either independently or in family groups, although a number of young women in the area had accompanied their migrating husbands or fathers north, without seeking employment themselves.

The uncommon incidence of female labor migration was probably due to the division of labor in pastoralism. Men's work with cattle did not usually limit their freedom to engage in other activities, since herding was communally organized, patrilineal kin had some corporate interests in a man's herd (e.g., for contributions to bridewealth transfers), and caretakers could use the dairy products. Because of the female role in milking, a woman's absence would be difficult to arrange, but any man with a wife or sister or with married male kin could readily pursue outside income-generating activities without the herds being neglected. Women were thus less likely to migrate.

The effect of male labor migration. In the interviews married women were asked how their husbands' seasonal and longer term migration affected their work. Women who reported that their husbands were away for more than one month a year (37 reported 1 or 2 months, and 14 reported more than 2) were asked who took care of the husbands' responsibilities, such as for gardens and cattle. A large proportion reported that they did the work themselves. Of those who identified specific categories, the results are given in Table 1. In the five cases of married women whose husbands were

away for a year or more, it was their sons who most often took over the husband's responsibilities.

The limited data indicate that the effect of male short-term migration was to increase work for both women and other men. Women whose husbands had not migrated in the year of the survey were asked whom they would have relied on if they had migrated; adding these replies to the others, the results were that 25 relied on self only, 10 relied on other females, and 48 relied on males. It is likely, of course, that certain men's tasks simply did not get done or were delayed, such as home maintenance, craft work, and marketing of some surpluses of horticultural or gathered products. This analysis probably does not fully reflect the burden on women, since the loss of husbands' contributions to cultivation for feeding the family, which would require women to cultivate larger fields, has not been included.

One problem with interviewing married women about the absence of their husbands was that data were not obtained on the effects of the absence of unmarried men; however, it is reasonable to assume that their absence, too, affected the work of both sexes. As one unusual example of this pattern, Manute Bol, from a neighboring Dinka group, migrated as an unmarried man to play professional basketball in the United States; in a Sports Illustrated article he was quoted as saying that his sister was caring for his herd of cattle in his absence (Lidz 1984).

Thus, the loss of male labor to migration can be compensated for by increasing the work of women, children, and other men. Female migration would not be as manageable, since women's daily labor in milking and grain processing is more difficult to replace.

REPRODUCTION, HEALTH, AND THE "DEMOGRAPHIC TRANSITION"

Conventional wisdom has held that poverty in the Third World is due in large measure to the high population growth rates and a delay in the expected demographic transition to lower birth rates. While it is outside the scope of this paper to develop the argument that the causal arrows should be reversed, it is important at this point to consider the factors that demographers believe were responsible for the high population growth in African countries, in order to understand the impact of birth rates on women's subsistence work. The demographic transition theory posits that in the past both birth rates and death rates were high and off-set one another. But then death rates appear to have declined after European colonial intervention and the introduction of modern medical services and trade, while birth rates remained high for cultural reasons or lack of contraception. This widening gap between high birth rates and lower death rates was thought to cause the rapid population increases. Eventually, the theory predicts, Third World birth rates are expected to decline, like the

transition to lower birth rates in the industrial countries, though the mechanism for this is not adequately developed in the theory.

Because of the paucity of historical demographic data for Africa, this theory has long been accepted without adequate substantiation. Critics have argued, however, that we should not assume that the demographic patterns of the Third World would necessarily mimic the past demographic patterns of the industrial countries. In fact, recent historical studies of Africa point to a dramatic rise in mortality in Africa under external pressures on the eve of European conquest (Johnson and Anderson 1988). Dawson (1987) demonstrates an increase, rather than a decline, in mortality rates during the first several decades of British colonial rule in Kenya and asserts that population growth after 1930 does not seem to have been due to any substantial reductions in mortality from improved health conditions; rather, he argues that socioeconomic pressures to increase fertility were responsible. Based on research in central Sudan, O'Brien (1987) also argues that the common impact of colonialism in Africa was to increase pressures for high fertility. Thus, although the precolonial birth rates and death rates may well have been high, both may have increased as a result of the economic, geographic, and social disruptions of European conquest and its aftermath.

The Nuer, too, have experienced high mortality especially among children, which together with other socioeconomic factors exerts strong pressure for high fertility. In the 1970s as in the past, both men and women desired high rates of childbearing. Women were marrying by their late teens and began child-bearing as soon as possible. Although young men sometimes delayed marriage and fatherhood during education and employment, no women from the Central Nuer were found to have done so.

There were at least three rationales for high rates of childbearing in this society. First, children are valued for their economic contributions to the family. Unlike industrial societies where children are usually a drain on parental resources, Nuer children--and their counterparts throughout much of the Third World--contribute actively to family production. Boys and girls were observed carrying out many tasks in the villages and seasonal camps: in the morning spreading dung to dry and collecting it again for the night fires, tending calves and keeping them away from their mothers during the day to prevent them from nursing, herding goats, gathering wild fruits and forest products for use or sale, cleaning cattle with ashes, running errands, and caring for smaller children. Young girls and sometimes boys helped with milking, and small boys were seen bringing home a string of fish they had speared in shallow pools left by receding floods. Girls worked with the women on cooking and brewing, and teenagers of both sexes took substantial responsibility for the cattle in dry season pastures. Parents were cognizant of the importance of children to

long-term family security, since they would provide for their parents in old age. One woman interviewed, for example, had undertaken to cultivate a larger than usual plot of sorghum for the specific purpose of obtaining extra cash to help purchase more cattle for bridewealth, so that her husband could marry another wife to provide more children for the family's security.

Second, high rates of child-bearing were supported culturally. It is important to note, however, that fertility, not a binary variable (high/low), is continuous, and though the desire for a high level of fertility had been evident in the past, it is quite possible that changes which occurred by the 1970s resulted in even higher birth rates than before. Even so, new factors would still be supported by long-standing cultural endorsement of child-bearing. For the Nuer, these cultural supports are embodied in gender role expectations, the status achieved by being a parent, the desirability of descendants to honor the lineage ancestors, and the enjoyment of children. The marriage system requires fertility; as before, the completion of bridewealth cattle transfers was commonly delayed until fertility was well proven.⁷ For the central Nuer in the 1970s, the survival of children, as well as fertility, had become an important marital imperative. In one case, a woman interviewed has suffered several years of infertility after having given birth to four children, and since all the children had died in childhood, her husband's family demanded the return of half the bridewealth cattle. This caused some controversy, as her family argued that she had already fulfilled her reproductive obligations, claiming that her husband would be justified in demanding return of bridewealth (to allow him to marry a second wife to bear children) only if she had not borne children at all. In the end, her family decided they would rather have their daughter back even if they had to give up some of the cattle. The couple did divorce over the issue even though, by the woman's account, they still loved each other and she would not have minded his taking a second wife.

The above example underscores the third factor contributing to high fertility, that is, the need to offset losses represented by the high rates of infant and child mortality. Traditional cultural adaptations to prevent infant deaths were still being practiced. For example, Nuer women continued to practice the post-partum sex taboo, reinforced by the belief that a resumption of sexual relations during the first year or two after a baby's birth would poison the mother's milk--a practice which allows the child-spacing so vital to infant survival.

Even so, high rates of child loss, exemplified by the experience of the woman above, were not uncommon in southern Sudan, even before the tragedies of war and famine in the 1980s. Quantitative data on infant and child mortality, however, have been unavailable, since vital statistics are not kept in most rural areas. The situation was particularly difficult in the southern region, where government services were even less developed than in

the northern provinces (Gruenbaum 1982). Few births were recorded, since most took place at home with traditional birth attendants or non-specialist women. Similarly, deaths were not officially recorded unless they occurred in a hospital.

The Ministry of Health therefore had to use estimates--which seemed somewhat optimistic--to arrive at the demographic statistics for the country as a whole. The following figures, reported in the United Nations Demographic Yearbook for the period of 1975-1980, were comparable to those of other seriously underdeveloped countries (United Nations 1984:270, 315, 344, 442):

Crude live birth rate	45.8 per 1000 population
Crude death rate	18.4 per 1000 population
Infant mortality rate	131.1 per 1000 live births
Life expectancy at birth	45.5 years (males)
	47.5 years (females)

While these figures are themselves discouraging, the less favored areas of the country (such as the central Nuer) might be expected to have even higher infant mortality rates and lower life expectancy than these national averages.

With the assistance of a Nuer woman (from the eastern Nuer) who was trained as a nurse, I surveyed 89 women in several villages where the research team was conducting investigations.⁸ The 89 women interviewed ranged in age from 16 to 55, with a mean age of 33.5 years. In Table 2 their reproductive histories are summarized. The number of children who had died in this sample was extraordinarily high--almost 40 percent of the live births--particularly when one considers that many of the surviving children listed in the survey were still in the high-risk age group (5 and under). Examination of the mortality pattern from the reported ages at death shows that 18.9 percent of those born alive had died during the first year of life; this is comparable to an infant mortality rate of 189 per 1000, which is 44 percent higher than the infant mortality rate estimate for the country.⁹ Of the total of 132 child deaths reported by these women, all but seven were of children age 5 or under.

Whether there had been increases or decreases in the fertility or mortality rates over time could not be reliably determined from these data. However, neither improved living standards nor improved medical services were much in evidence in this area in the 1970s. The poor sanitation, unsafe water supplies, and widespread diseases we observed in the field, together with people's reports

on ill health, led us to believe that if anything, the infant and child mortality rates were rising rather than declining. The inability of the health services to ameliorate this situation is examined in the next section.

Health conditions and medical services. Sudan's major health problems are represented in the Nuer region. Malaria, which nationally represents the main diagnosis at government health care facilities (about 16 percent of all reported cases treated), is very high in this area also, particularly during the rainy season and in the wetter areas near the rivers and Sudd swamp. Periodic epidemics of infectious diseases such as measles and meningitis cause many deaths, particularly of children. Dysenteries and diarrhea accompanying other illnesses are a common cause of death. Water sources are often unhygienic, for example, surface reservoirs used during the dry season or water courses infested with the organisms of schistosomiasis, giardia, and other water-borne disease. Troublesome eye infections are common, while anemias and other nutritional deficiencies are not infrequent, due to seasonal variations in diet and localized crop failures.

The presence of the research team in Ayod attracted many sick people who hoped that these educated researchers would somehow be able to help. As a result, the team saw first hand many infectious and parasitic diseases, as well as large tumors, spear wounds, and various injuries for which a journey to doctors at the provincial capital was advisable, but which most people could not afford or for various reasons were reluctant to undertake. With no transportation, even a trip to the poorly supplied dressing station some 25 miles away in Magogh was seldom undertaken when ill, especially since there was no assurance that the minimally trained but hard-working dresser would be able to help. He frequently had to travel to the provincial capital to get his salary and request supplies and more often than not had no medications on hand appropriate to his patients' diseases or otherwise lacked the expertise to adequately treat them. Although they wanted medical care, the lack of any local medical facilities meant that people had little recourse for treatment except shamans, herbal remedies, and such pseudo-modern techniques as the rumored wandering injectionists, who sell shots of what is supposed to be penicillin at isolated camps.¹⁰

Thus the health services that did exist had by the 1970s done little to relieve the high mortality rates resulting from the area's health problems. In fact, the government gave so few services of any kind that it is not unreasonable to argue that the government had maintained this region, in effect, as a labor reserve rather than an integrated part of Sudanese society.

CONCLUSION: PROSPECTS FOR FUTURE DEVELOPMENT

To summarize, at the time of the fieldwork the pressures for high fertility were limiting Nuer women's participation both in labor migration and other possible income-generating activities in the local area. However high birth and death rates may have been for the Nuer in the past, it is clear that the high contemporary rates are structured features of their present integration into the larger political economy of Sudan. There may be long-standing cultural values favoring large numbers of children, but there are also compelling reasons stemming from Nuer incorporation into circuits of labor migration and commodity production that lead women and families to need many children.

Colonial and post-colonial policies, including neglect of rural public health and the development of irrigated agriculture employing seasonal migrant labor, created conditions favorable to the spread of disease to new zones of the country. In such circumstances, the deprivation of the basic health and other social services attendant upon the creation in the central Nuer area of a cheap labor preserve has introduced new factors and has allowed old factors that result in very high rates of infant and child death to persist. The burden of these high birth and death rates falls most heavily on Nuer women.

At the time of the fieldwork, the principal way for inhabitants to participate in the cash economy was through leaving the area to pursue wage labor. That option was not ordinarily available to the women, because although an absent male's responsibilities could be shouldered by others, male and female, an absent female's labor would be more difficult to replace. Further, the migrant labor opportunities for men presupposed and relied upon the preservation of the subsistence activities performed by those who remained behind. The lack of extensive female labor migration is consistent with my analysis, since women are needed to maintain the viability of the rural community--for social reproduction of a part of the national work force and as the functional equivalent of disability insurance and retirement benefits--on which the low-wage economy relies. In any case, the opportunities for the few migrant Nuer women in the 1970s were not very desirable, that is mainly illegal brewing and, according to Kameir (1980:468), some prostitution. More recently, low-paid jobs such as domestic work are reported for some refugee Nuer women in Khartoum.

Since the poor health conditions continued to make difficult the expected reproduction and rearing of children to adulthood, as the reproductive data shows, the energies of women were being consumed in these tasks much more than would have been necessary under more optimal living conditions. Yet they needed to devote this energy to reproduction to assure family well-being through children's and adult children's subsistence work, which additionally helped to compensate for the absence of migrants.

What the future holds for the central Nuer is not at all clear. The current economic, political, and military situation in the country has resulted in further obstacles to development. The southern Sudan is in turmoil, with the Sudanese People's Liberation Movement having undertaken a military offensive against the central government. This is neither inter-tribal warfare nor a southern Sudanese nationalist struggle against the heavily Muslim North. Instead, it is a movement in response to the realization of many southern Sudanese that the Addis Ababa accord of 1972, which had brought a temporary peace after a seventeen-year civil war, had failed to provide the political participation and development desired. Rather, in the latter years of President Nimeiri's government (1969-1985), the principle of regional autonomy was undermined by the dissolution of the Southern Regional Assembly and Regional ministries. This event redivided the South, attempted to change the North-South boundaries to incorporate the oil-rich areas into the North, and implemented only those development schemes which were extractive (such as the Chevron oil project and the Jonglei Canal), while plans for such things as a sugar industry and textile factories did not come to fruition. The Jonglei Canal was routed directly through the central Nuer area, yet its intended benefit was primarily increased water for irrigation in northern Sudan and Egypt. That project was never completed due to the war.

Nimeiri's social agenda, which included fundamentalist Islamic reforms, was opposed by many in culturally heterogeneous Sudan, especially in the largely non-Muslim southern region. These policies have not been completely abandoned by Nimeiri's successors, and political pressures to Islamicize the constitution continue. The current leadership of the movement in the South, however, is not anti-Muslim or anti-North, but favors a unified movement of North and South for a governmental system that includes freedom of religion and democratic and human rights guarantees to all ethnic groups in Sudan under one socialist economic system (see Khalid 1987).

In the last few years Sudan has received thousands of refugees from Ethiopia and has experienced famines and massive population displacement due to the war. The country's economy is in disarray and the political turmoil which led to the overthrow of the Nimeiri government in 1985 has not been resolved. Prolonged tension and war are inhibiting the chances of improvements in living conditions, not only because of the loss of lives and insecurity, but also because of the undermining of the pastoral economy by the capture and confiscation of cattle as well as population displacement, the disruption of employment opportunities, services, and supplies. By 1989, at least a half million southern Sudanese had sought refuge in the national capital Khartoum and another 800,000 had fled to Ethiopia. The dead from the conflict and famine for 1988 alone was estimated between 250,000 and 500,000. There is also the danger of reprisals and animosities, not to

mention loss of labor, whenever rural people find it necessary to join or support revolutionary movements to achieve their goals.¹¹

The situation of the Nuer certainly is not caused by any refusal to participate in change. The team's research indicated that Nuer women and men wanted to become more involved in socioeconomic development and that they had their own agendas for change. In the meetings held by the research team at the villages throughout the area, people expressed strong desires for the benefits of medical and veterinary services. In the household surveys conducted by the team, people expressed an interest in trade, employment, and economic and technical innovation.¹²

Thus, when the eventual resolution of conflict again allows development planning to become possible in this area, one can anticipate interest in development projects which benefit the area itself, rather than those which use the area for extraction of water or migrant labor. Since women cannot be expected to participate extensively in labor migration, planning development in the home area which can include women is needed. A good place to begin would be to recognize the economic nature of the multifaceted labor women are already doing, rather than passing it over as "domestic labor."

The significance of this for development strategies in the Third World is to underscore the importance of subsistence production and domestic work to the development of agricultural schemes and industry (in the "modern sector"). Development planners have assumed for too long that workers will simply appear in response to price adjustments, and they have neglected the analysis of the actual conditions of the reproduction of these individuals and of their ability to put in a day's work. Too often non-intensive pastoral and agricultural systems have been treated as almost invisible and irrelevant to the economy: for example, millions of acres of "unoccupied" Sudanese land was plowed up for mechanized farming without regard to the seasonal grazing needs of the nomadic pastoralists who had been using it. Even where planners have been conscious of the destructive effects of development plans on other lifeways, there has been little thought given to their value--either to the people themselves or to the larger economic system--and it has been assumed that such lifeways will of necessity decline or be transformed with the progress of development. These lifeways are not so detached from the national economy as they may at first glance appear, but they are integrated through kinship and the family.

Similarly, in analyzing women's activities it is a mistake to suppose that labor which appears to be "domestic" is therefore detached and unimportant. With a better appreciation of how the women of such pastoral and agricultural systems are actually integrated into their national economies, perhaps development can

be more effectively directed toward ecologically and socially viable policies.

For example, by the 1970s the potential for trade in dairy products, dried fish, tobacco, and livestock was only minimally developed for the Nuer. With access to education, transport, credit, and cooperatives, Nuer women might well be able to turn their productive potential into incomes and improve their standard of living. Improvements in housing and sanitation, if coupled with better preventive health services, could reduce the infant and child losses which currently consume so much of their reproductive energy. For generations the pastoral peoples of this area have survived in this harsh environment with philosophical insight, determination, even humor. With investment of a fair share of their nation's resources, they can be expected to flourish.

Notes

I am grateful to the Sudanese National Council for Research for providing the opportunity for this research. I would like to thank all of the members of the Jonglei Socioeconomic Research Team for their collegiality, which enabled me to learn much more than I could have alone. I am especially grateful to Mary Nyagony, my research assistant and interpreter, whose good humor and careful work made the research enjoyable and fruitful. And of course I am grateful to all the people who shared information on their lives with me. I am also grateful for the helpful comments of Jay O'Brien, Nancy Rose, and two anonymous reviewers on earlier drafts of this paper.

1. Unlike fully nomadic pastoralists who move their camps frequently in the arid northern regions of Sudan, the Nuer have permanent homesites where they build large barns and plant crops. Because of the extremes of the climate, however, these sites are too dry to provide grazing and water the entire year and require seasonal movements of herds and people, known as transhumance. Flooding of dry season pastures during the rainy season necessitates the retreat to the slightly higher elevation of the permanent home sites.
2. See Sharon Hutchinson (1988) for the ways in which the values and practices of eastern and western Nuer groups have begun to shift under the pressures of money economy, conflict, and the state in the twentieth century.
3. This research was part of a socio-economic survey of the area to be affected by the digging of the Jonglei Canal, conducted by an interdisciplinary research team comprised primarily of faculty from the University of Khartoum under the auspices of the Economic and Social Research Council of the Sudanese National Council for Research. While living in Sudan (1974-1979), I participated in the planning and carrying out of the project during 1975 and 1976, including three research trips to southern Sudan, the longest of which was for three months from March through May, 1976, to Upper Nile Province, where my part of the team was based in the village of Ayod.
4. The old ethnographies, influenced by British social anthropology's structural-functionalist theoretical orientation, generally portrayed the Nuer (and other "tribal" peoples) as relatively homeostatic social systems; outside influences were ignored or treated as anomalous rather than as potentially important aspects of their way of life. Recent work in anthropology and ethnohistory has effectively challenged that view (see, for example, Wolf 1982; for the Nuer, see Johnson 1988; Kelly 1985).

5. Evans-Pritchard is very definite about the prohibition on adult males milking: "However many cattle a man may possess, he is helpless without a wife or mother or sister to milk the cows. It is only through marriage that a man can have a home of his own, and one of the most serious consequences of divorce is that it compels him to attach himself to the home of a kinsman whose womenfolk can milk and cook for him" (1951:130). Exceptions are noted: "Men are forbidden to milk cows unless, as on journeys or war expeditions, there are no women or [uninitiated] boys present" (1940:22).
6. As the Nuer did not perform female circumcision--a more regular source of income for northern Sudanese midwives--it is not included as an economic activity.
7. For a detailed analysis of changes in Nuer marriage in the 1980s, see Hutchinson 1988.
8. My sampling methods were unorthodox due to the need for the interdisciplinary team to interview at many different sites. Since we were able to travel cross-country to isolated farms and decide on which houses to visit without selection by local political leaders, we were able to avoid some of the potential sources of bias. No one refused to be interviewed, since our research team had held public meetings at local court centers, with separate meetings for women, to inform the people about the surveys and to request cooperation. (And of course, being interviewed by a group of educated city folk who suddenly arrive at the farm in a bright new blue and white Land Cruiser has considerable entertainment value on a hot, dry day.) Thus, while the sample may not be representative, it was the best we could do under the circumstances. The sample included women of a variety of ages and marital statuses, all of whom had been pregnant at least once.

Reproductive histories were extremely difficult to collect from these women, since almost all were illiterate and most had no records of dates of birth or ages of themselves or their children, since exact records had not been significant in their culture. Whenever possible we recorded their descriptions of the years when births or deaths occurred (e.g., "year of starvation," "year of Jec Gaj was killed," "year the helicopters came to Magogh"), and attempted to identify the exact year with the help of southerners on the research team. We also compared living children, if present, with the ages their mothers thought they were.

9. Since these calculations are based on opportunistic sampling, do not apply to all births and infant deaths in a single year, and have relied on imprecise age estimates, they must of course be regarded to approximations only.

10. Colonial medical services had been targeted primarily at Europeans and other government employees, with rural medical services important only in "pacification" campaigns and for the economically vital Gezira Scheme in central Sudan (Gruenbaum 1982), but even those rural dispensaries which had existed prior to the 1955-1972 civil war had not been rebuilt or staffed. In some villages, people were able to point to their local clinic--the ruins of a concrete building that had fallen into disuse or which had been bombed during the lengthy civil war which followed independence in 1956. At the provincial capital we had obtained a list of clinics and dressing stations in the area, but many of these turned out to be non-functioning. In those few places where a government dresser was working, few had decent buildings and none had adequate equipment or supplies.
11. See Ushari and Baldo 1987 for a description of tragic instances of inter-ethnic violence being fostered for military purposes.
12. In our survey of Nuer households, 45 percent of those interviewed said they thought ox plows would be a good idea, even though they had no experience with them. More than half (53 percent) thought producer cooperatives would be a good idea. Of the predominantly male respondents to the household survey, 70 percent said that if given the opportunity they would consider leaving their farms to go live on or near a new agricultural scheme if it were initiated near Kongor (in the Dinka area to the south). The main reasons they gave for their interest in doing so were that life is difficult as it is now (20 percent) or they would like the "new opportunity" (47 percent). Forty-five percent expressed an interest in working for wages while 22 percent thought they would seek work at such a project during the dry season. Those who said they would be reluctant to leave their home area were concerned about leaving ancestral areas (19 percent) or were concerned about leaving cattle (18 percent). Very few (3 percent) said they would not seek change because they considered that their "life was good" already, and only 3 percent said they would want their children to live the same way they did. Sixty-three percent specified they wanted their children to have an education while others simply hoped for "change" in their children's lives (29 percent) or wanted them to do "whatever they like" (3 percent).

Table 1

**Who Did the Work of the Absent Migrant Husband
(reported by wives)**

	Females	Males
The woman herself	16	
Husband's brother		12
Son or husband's son		7
Other male kin		7
Other male non-kin		1
Female kin	4	
Other female non-kin	3	
TOTAL	23	27

Table 2

**Summary of Reproduction Data from Survey of 89 Women
Age 16 to 55 in Central Nuer Area, Southern Sudan 1976**

	<u>Total Number</u>	<u>Age Range</u>	<u>Number per woman (mean)</u>
Past pregnancies in sample	450	NA	5.06
Live births	333	NA	3.74
Surviving children	201	0-5	2.26
Children born alive who had died before interview	132	0-8	1.48
Pregnancies ending in miscarriage or stillbirth	117	0-6	1.31
Pregnancies at time of interview	23	NA	NA

Source: Interview records

References

- Benería, Lourdes, and Gita Sen
1981 Accumulation, Reproduction, and Women's Role in Economic Development: Boserup Revisited. Signs 7(2):279-298.
- Bennholdt-Thomsen, Veronika
1981 Subsistence Production and Extended Reproduction. In: Of Marriage and the Market: Women's Subordination Internationally and Its Lessons, ed. by K. Young, C. Wolkowitz, and R. McCullagh. Pp. 16-29. London: Routledge and Kegan Paul.
- Benston, Margaret
1969 The Political Economy of Women's Liberation. Monthly Review 21(4):13-27.
- Boeke, J.H.
1953 Economics and Economic Policy of Dual Societies. New York: Institute of Pacific Relations.
- Burton, John
1982 Nilotic Women: A Diachronic Perspective. Journal of Modern African Studies 20(3):467-491.
- Davison, Jean (ed.)
1988 Agriculture, Women, and Land: The African Experience. Boulder: Westview Press.
- Dawson, Marc H.
1987 Health, Nutrition, and Population in Central Kenya, 1890-1945. In: African Population and Capitalism: Historical Perspectives, ed. by Dennis Cordell and Joel W. Gregory. Pp. 201-217. Boulder: Westview Press.
- Deere, Carmen Diana
1982 The Division of Labor by Sex in Agriculture: A Peruvian Case Study. Economic Development and Cultural Change 30(4):795-811.
- Evans-Pritchard, E.E.
1940 The Nuer. New York: Oxford University Press.

1951 Kinship and Marriage Among the Nuer. New York: Oxford University Press.
- Fuentes, Annette, and Barbara Ehrenreich
1985 Women in the Global Factory. Boston: South End Press.

Gruenbaum, Ellen

- 1982 Health Services, Health, and Development in Sudan: The Impact of the Gezira Irrigated Scheme. Unpublished Ph.D. dissertation, University of Connecticut.

Hutchinson, Sharon

- 1985 Changing Concepts of Incest Among the Nuer. American Ethnologist 12(4):625-641.
- 1988 The Nuer in Crisis: Coping With Money, War and the State. Unpublished Ph.D. dissertation, University of Chicago.

Johnson, Douglas, H.

- 1988 Adaptation to floods in the Jonglei area of the Sudan: an historical analysis. In: The Ecology of Survival: Case Studies from Northeast African History, ed. by Douglas Johnson and David Anderson. Pp. 173-192. Boulder: Westview Press.

Johnson, Douglas, and David Anderson

- 1988 Introduction: Ecology and Society in Northeast African History. In: The Ecology of Survival, ed. by Douglas Johnson and David Anderson. Pp. 1-24. Boulder: Westview Press.

Kameir, El Wathig

- 1980 Nuer Migrants in the Building Industry in Khartoum: A Case of the Concentration and Circulation of Labour. In: Urbanization and Urban Life in the Sudan, ed. by Valdo Pons. Khartoum: Development Studies and Research Centre.

Khalid, Mansour (ed.)

- 1987 John Garang Speaks. New York: Routledge and Kegan Paul.

Kelly, Raymond C.

- 1985 The Nuer Conquest: The Structure and Development of an Expansionist System. Ann Arbor: The University of Michigan Press.

Lidz, F.

- 1984 Come See the Dinka Dunker Do. Sports Illustrated 61 (Dec. 10):74ff.

Mills, L. R.

- 1975 Towards a Study of Population and Manpower in the Southern Sudan. Draft report for the International Labour Office and the Ministry of Public Service and Administrative Reform. Juba: International Labour Office.

- O'Brien, Jay
1979 The Political Economy of Development and Underdevelopment: An Introduction. Khartoum: Development Studies and Research Centre, University of Khartoum.
- 1987 Differential High Fertility and Demographic Transitions: Peripheral Capitalism in Sudan. In: African Population and Capitalism: Historical Perspectives, ed. by Dennis Cordell and Joel W. Gregory. Pp. 173-186. Boulder: Westview Press.
- Seligman, G., and Brenda Z. Seligman
1932 Pagan Tribes of the Nilotic Sudan. London: Routledge and Kegan Paul.
- United Nations
1984 Demographic Yearbook. New York: United Nations Publishing Division.
- Ushari, Ahmad Mahmoud, and Suleyman Ali Baldo
1987 Al Diein Massacre: Slavery in the Sudan. Khartoum: University of Khartoum.
- Wolf, Eric
1982 Europe and the People Without History. Berkeley: University of California Press.

WOMEN AND INTERNATIONAL DEVELOPMENT PROGRAM
MICHIGAN STATE UNIVERSITY
ISSN# 0888-5354

The WID Program at Michigan State University began its *Women in International Development Publication Series* in late 1981 in response to the need to disseminate the rapidly growing body of work that addressed the lives of women in Third World countries undergoing change. The series cross-cuts disciplines and brings together research, critical analyses and proposals for change. Its goals are: (1) to highlight women in development (WID) as an important area of research; (2) to contribute to the development of the field as a scholarly endeavor; and (3) to encourage new approaches to development policy and programming.

The *Working Papers on Women in International Development* series features journal-length articles based on original research or analytical summaries of relevant research, theoretical analyses, and evaluations of development programming and policy.

The *WID Forum* series features short reports that describe research projects and development programs, and reviews current policy issues.

EDITOR: Anne Ferguson
MANAGING EDITORIAL ASSISTANTS: Pam Galbraith
DISTRIBUTION & PRODUCTION MANAGER: Barry Crassweller

EDITORIAL BOARD: Margaret Aguwa, Family Medicine; Marilyn Aronoff, Sociology; James Bingen, Resource Development; Ada Finifter, Political Science; Linda Cooke Johnson, History; Assefa Mehretu, Geography; Anne Meyering, History; Ann Millard, Anthropology; Julia R. Miller, College of Human Ecology; Lynn Paine, Teacher Education; Paul Strassmann, Economics; David Wiley, African Studies Center; Jack Williams, Asian Studies Center; Kim A. Wilson, Institute of International Agriculture; Khalida Zaki, Department of Sociology.

NOTICE TO CONTRIBUTORS: To provide an opportunity for the work of those concerned with development issues affecting women to be critiqued and refined, all manuscripts submitted to the series are peer reviewed. The review process averages three months and accepted manuscripts are published within ten-to-twelve weeks. Authors receive ten free copies, retain copyrights to their works, and are encouraged to submit them to the journal of their choice.

Manuscripts submitted should be double-spaced, sent in duplicate, on disk or emailed (to wid@pilot.msu.edu) in WordPerfect compatible format and include the following: (1) title page bearing the name, address and institutional affiliation of the author; (2) one-paragraph abstract; (3) text; (4) notes; (5) references cited; and (6) tables and figures. The format of the article must follow the format as depicted in our "Style sheet". Submit manuscripts to Anne Ferguson, Editor, WID Publication Series, Women and International Development Program, 202 International Center, Michigan State University, East Lansing, MI 48824-1035, USA. Style sheets are available upon request.

TO ORDER PUBLICATIONS: Publications are available at a nominal cost and cost-equivalent exchange relationships are encouraged. To order publications or receive a listing of them, you may write to the WID Program, 202 International Center, Michigan State University, East Lansing, MI 48824-1035, USA or check out our Web site (<http://www.isp.msu.edu/wid/>) which also has all the ordering information and an order form. Orders can also be sent to us via email at (wid@pilot.msu.edu).