Beer consumption and Third World nutrition

Penny Van Esterik and Joel Greer

The consumption of alcoholic beverages, particularly commercially made beer, is rising rapidly in Third World countries. Yet very little is known about how this affects the nutritional status of those whose intake has increased (adult males) and that of their family members. The situation would appear to contain the potential for severe inequalities in the distribution of resources between those who hold the purse strings and those who do not. For this reason, the increase in sales of alcoholic beverages should be considered worthy of the attention of nutritionists and planners.

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The recent study, *Alcoholic Beverages: The Dimensions of Corporate Power*,[1] documents the increase in beer production in developing countries, linking it with international production, marketing, and distribution of alcoholic beverages by transnational alcohol companies. Private commercial breweries as in Kenya, and joint ventures between transnational liquor conglomerates and national companies, as in Nigeria, have been extremely effective in penetrating new markets.

In Kenya, millet and sorghum beers (as well as some maize beers) are known collectively as *pombe*. They are brewed by village women for family use, for community celebrations and for sale. Since they are only fermented for a few days, they have a lower alcoholic content than the bottled barley/malt beer produced commercially by Kenya Breweries, Ltd (2% alcohol compared with 4%). Therefore there are fewer useless calories, as more of the carbohydrates remain as starches. A litre of unclarified sorghum beer contains 5 gms of protein and 1170 calories (of which 976 are usable). The unstrained mash also contains the full nutrient content of both the sprouted grains and the yeast. It is particularly rich in iron and the B vitamins.

In addition to supplying more nutrients, millet and sorghum beers are less of a drain on the household's limited income. Millet and sorghum beers, and the spirits distilled from them, are relatively inexpensive to buy since they require little cash outlay to produce and are not taxed. Furthermore, traditional beers are made from local produce and labour so that the expenditure remains within the local economy. Finally, these beers are probably distributed more equitably within the family; traditionally, women, including those pregnant and lactating, received these beverages.[2] Commercial beers are substantially more expensive to purchase since they are heavily taxed. Thus, the diversion of household income to support the beer drinking of even a single family member can result in a significant decrease in the food consumption of other family members.

While there are usually cultural and social controls on the consumption of traditional brews, there are unlikely to be social controls on the consumption of commercial beers. Thus, in societies where elders had the prerogative to consume and serve traditional beers, young men freed from traditional controls may be more prone to consume large amounts of commercial beer. Traditional beers are often consumed as part of community social occasions in which most family members participate. Thus, even non-drinking family members might benefit from the availability of extra-celebratory food. However, in some contexts, women or children may be excluded from these celebrations. But since commercial beers are consumed mainly by adult males, income allo-

[1]The study was withdrawn from Oxford University Press last year, but has been described in newspaper and journal articles eg *Multinational Monitor*, Vol 4, No 11, and *Toronto Star*, 29 April 1984.
[2]FAO, *Women in Food Production, Food Handling and Nutrition, with Special Emphasis on Africa*, FAO, Rome, Italy, 1979.

Table 1. Alcoholic beverage use: 1975–77 average.

	Domestic food utilization (1 000 tonnes)	Per capita supply				
		Kg per year	Per day			
			Grams	Calories (number)	Protein (grams)	Fat (grams)
Millet/sorghum beer	298	21.2	68.0	24	0.2	–
Barley/malt beer	171	12.1	33.3	14	0.2	–
Grape wine	1	0.1	0.2	–	–	–
Distilled spirits	24	1.7	4.7	14	–	–

Source: FAO, *Food Balance Sheet 1975–77*, Document No 81–10 247, FAO, Rome, Italy, 1980, p 529.

cated to household food may be diverted to products consumed by only a few household members, rather than distributed proportionately according to the nutritional requirements of household members.

Tables 1 and 2 illustrate these patterns using Kenyan data. Table 1 shows the domestic consumption of various alcoholic beverages as reported by the FAO.[3] The government's fixed price for manufactured, European-style barley/malt beer is much higher due to taxes and transport costs. Despite the larger quantity of *pombe* consumed, it is commercial beer which is the major drain on family incomes, as is shown in Table 2.

Total expenditure on commercial beer in Kenya in 1980 was 2047.8 million KSh or 515 KSh per adult male.[4] This is 6% of total private consumption as calculated from national accounts data. The point is not that 6% is particularly high or low, but that for many households a 6% increase in expenditure on nutritious foods would mean the difference between malnutrition and an adequate diet.

Greer and Thorbecke[5] have calculated that small-farm households need an expenditure of 731 KSh per adult equivalent per year to acquire a diet which just satisfies the 2250 calorie recommended dietary allowance (RDA).[6] An adult male drinking the average amount would spend 72% of his subsistence food allowance on bottled beer.

Greer and Thorbecke estimate that over 35% of the rural households surveyed are consuming less than their food-poverty line. Although the precision of this estimate is low, it clearly indicates that a sizeable minority of households cannot afford to feed their members adequately. For these households, a diversion of family food resources to one member's alcohol consumption can have serious consequences. An additional 515 KSh spent on the predominant food staple, maize, instead of beer, would supply a household of average size with 609 calories per adult equivalent, or 27% of the RDA. If the money were spent as the average rural household allocates total expenditure – that is, on all goods, not just food – the effect would be to increase calorie consumption of all household members by 9.5% of the RDA. Since the poor consume foods which provide more calories per shill-

[3]FAO, *Food Balance Sheets: 1975–77. Average and Per Caput Food Supplies 1961–65*, FAO document No 81–10 247, FAO, Rome, Italy, p 529.

[4]1 KSh is roughly 10¢.

[5]Joel Greer and Erik Thorbecke, *Patterns of Food Consumption and Poverty in Kenya and Effects of Food Prices*, mimeo, Department of Economics, Cornell University, Ithaca, NY, USA.

[6]Food expenditure includes both purchased foods and the imputed value of home production consumed by the household. Prices have been converted to 1980 prices using the Nairobi cost of living index for low-income households. There were approximately 10 KSh to the US dollar. The recommended dietary allowance for calories (RDA) and adult equivalent weighting scale are adapted from S. Anzagi and F. Bernard, *Population Pressure in Kenya: A Preliminary Report*, Central Bureau of Statistics, Nairobi, Kenya, 1977.

Table 2. Consumption expenditures on bottled (European style) beer, 1965–1981.

	1965	1970	1975	1980	1981[a]
Beer consumption (million litres)	29.7	77.1	153.3	232.7	241.5
Beer price (KSh/bottle)[b]	2.16	2.40	3.0	4.4	4.79
Total beer expenditure (million KSh)	128	370	919.8	2047.8	2313.6
Estimated population (millions)[c]	9.37	11.2	13.4	15.9	16.5
Beer expenditure per adult male (KSh/year)	55	132	275	515	561
Total private consumption (million KSh)	4 972	7 298	16 328	32 818	38 191[d]
Beer expenditure as percentage of private consumption	2.6%	5.1%	5.6%	6.2%	6.1%[d]

Source: Central Bureau of Statistics, *Statistical Abstracts*, Nairobi, Kenya.

[a]Provisional data. [b]Bottle size is estimated at 0.5 litres. Price does not include bottle deposit. [c]Estimated from the 1969 and 1979 census, eg, the adult male population is estimated to be 25% of total population for all years. [d]Using the value of total private consumption (37 500) from the Fifth Development Plan, (available from the Government Printer, Nairobi, Kenya) raises the percentage of beer expenditure to 6.2%.

ing than do the non-poor, the benefit to poor households would be even greater. Thus, the spread of commercial beer into rural areas can have deleterious effects on the nutritional status of many people.

Between 1965 and 1980, beer consumption in Kenya increased from 29.7 to 232.7 million litres resulting in an increase in expenditure per adult male from 55 KSh to 515 KSh.[7] This large increase in consumption has occurred despite large, regular increases in the price of beer and only moderate growth in real income. Backed by pervasive advertising and an extensive distribution network, Kenya Breweries can be expected to continue to increase their sales in rural and urban areas. It is important to analyse now the probable effects before serious problems arise. This will require more data, most of which could be obtained by a few additional questions on a food consumption survey.

'The amount of money spent on alcohol in developing countries is a significant public health problem'

There is a political sensitivity and ethical complexity surrounding the topic of alcohol production and consumption. However, the amount of money spent on alcohol in developing countries is a significant public health problem, since it may be associated with poor nutritional status, substitute expensive calories for less costly calories, differentially affect the poorest households, and contribute to the maldistribution of resources within the household, with most money and calories benefitting adult males. It is therefore important that planners have an accurate knowledge of beer consumption. For this reason we suggest that food consumption and expenditure surveys explicitly include questions about alcoholic beverage consumption. In the presentation and analysis of findings, beer and spirits should be listed separately from other foods. Since beer and spirits are primarily consumed by adult males, their contribution to family nutrient intake should be heavily discounted.

The problem raises the following research questions concerning the social and economic implications of increased consumption of commercial beer:

1) Is beer expenditure adequately captured by food consumption surveys? If the available data are not reliable can reasonable estimates be made using other methods?
2) How does beer consumption differ between rural and urban households: among income groups; between adequately and malnourished households?
3) To what extent, if any, does alcoholic beverage consumption affect farm output and employment earnings?
4) What are the price and income elasticities for alcohol? What are the implications for tax and pricing policies? In the Kenyan case, what are the effects of banning traditional millet/sorghum beers and the spirits distilled from them?
5) How has the expanded market for commercial beer affected the 'work for beer' complex where agricultural labour exchanges were accompanied by brewing and consuming traditional beer? Does the substitution of commercial beer undermine communal activities?
6) Do restrictions on brewing traditional beers have a differential impact on women? Does this affect the nutritional status of pregnant and lactating women or alter their opportunities for income generation?
7) What effect does alcohol consumption have on a calorie deficient person? Does the substitution of calories from beer for calories from other foods lead to other nutrient deficiencies?
8) How do households compensate for the income spent on beer? What items are sacrificed? What are the nutritional implications of these tradeoffs? When males consume beer away from home, do they consume more or less food from the household food supply during shared family meals?

[7]The increases in 1980 and 1981 are partially due to the banning of locally brewed beers and spirits which has decreased but by no means stopped their sales.