

Livelihood benefits from the local level commercialization of savanna resources: a case study of the new and expanding trade in marula (*Sclerocarya birrea*) beer in Bushbuckridge, South Africa

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In the face of economic hardship and poverty, rural people in South Africa and globally are increasingly turning to the natural resource base to generate income. One product that has recently entered into local commercial markets is a traditional alcoholic beverage brewed from the fruits of *Sclerocarya birrea* (marula), commonly known as marula beer. It was rarely traded in the past due to customary taboos prohibiting its sale. In Bushbuckridge, Limpopo province, rural women have been selling marula beer in the business centres of the district and along the roadside since 1998. A survey of these markets was undertaken in 2002, to discover the commercialization process involved, from raw material harvesting to marketing, and to assess the importance of the trade for household livelihoods and poverty alleviation. Fifty-one traders were interviewed, who indicated that the sale of marula beer provides a vital source of income to several hundred households from amongst the poorest sector of the Bushbuckridge community. Of particular importance were the low barriers of entry to the trade, as the resource is abundant and freely accessible and there are few costs to produce marula beer. Incomes earned were modest, averaging a net R500 per season, and highly seasonal, but came at a critical point in the household calendar, after the festive season and when cash was required for the new school year. Income bridging, livelihood diversification, and the provision of a safety net for the poorest members of society are some of the key benefits of the beer trade.

Introduction

In the face of escalating economic hardship, HIV/AIDS, unemployment and retrenchments,¹⁻³ the poorest people in South Africa are increasingly turning to the natural resource base as a means to meet their livelihood requirements. Indeed, in some rural, communal areas trade in wild products is one of the few options available to generate an income, particularly for women and other vulnerable and marginalized members of society. In general, the barriers of entry to trading these products are low; the resource is often freely available, capital costs are minimal, and people usually have the skills required. Consequently, women across the country are converting previously subsistence activities and uses of natural resources into income-generating opportunities.^{4,5} Marula beer (*oukhany*), brewed from the fruit of the savanna species *Sclerocarya birrea* subspecies *caffra*, is one of the products rural women have recently turned to in their pursuit of a cash income. In the Bushbuckridge district of Limpopo province, the trade in this liquor has grown from a few traders in 1998 to several hundred today.

Marula beer itself is not a new product and, indeed, the marula

tree has long formed an integral component of rural communities' livelihoods, culture and spirituality.⁶ The fruit, seeds, leaves, wood and bark of this species have been used extensively by rural communities for many hundreds of years.⁷ Probably one of the most important uses of this multi-purpose tree has been, and still is, the production of a popular alcoholic beverage from its fruit. Several thousand fruits, averaging from 2700 to as many as 44 200 according to growing conditions, are produced per tree in mid-summer.⁸ Each fruit weighs approximately 20–25 g. When mature, they fall to the ground where they ripen to a dull yellow colour. It is these fruits that are gathered, split to remove the skins, squeezed to release the milky juice and left to ferment into the uniquely flavoured marula beer. Other important uses of *S. birrea* include the consumption of fresh fruit and kernels, the extraction of oil from the kernels for a variety of purposes from cooking to cosmetic, the harvesting of leaves and bark for traditional medicine, and the use of its wood for fuel, fencing and carving.⁶ The tree is also host to a range of edible caterpillars as well as parasitic mistletoes, which produce outgrowths known as wood roses that are sold in curio markets.⁹

In addition to these consumptive uses, marula has considerable social and cultural significance. Marula beer, in particular, has been the focus of numerous ceremonies, beliefs and rituals for centuries.^{6,10,11} In the past, 'first fruit' ceremonies, at which the first marula beer of the season was drunk to give thanks to the ancestors and to mark the beginning of the rainy season, were celebrated at national and local level. Although these events seldom happen today, people still gather in villages or households to drink this traditional beverage. These gatherings reinforce reciprocal bonds and obligations, and are key in building and maintaining social and support networks. Presentations of beer continue to be made to the traditional leadership and individual offerings of beer, placed at the foot of a marula tree, are often made to the ancestors.

The cultural value of marula beer meant that there were traditional taboos against the commercialization of this product. These customary norms are now rarely enforced, however, despite unease amongst certain actors that commercialization may ultimately lead to a loss of local traditions and crucial social capital.^{12,13} In Bushbuckridge, for instance, some headmen and elderly community members expressed strong opposition to the sales of marula beer for these reasons.¹³ On the whole, though, traditional leaders have recognized and accepted that the sales of beer can help bring much-needed income to poor households that have few other ways of earning money.¹³ There are reports of marula beer being sold in Namibia,¹² Zimbabwe,¹⁴ Swaziland,¹⁵ and the in the former Venda homeland of South Africa¹⁶ — all areas in which this activity was not supported in the past. By contrast, the sale of the beer is still largely prohibited by traditional leaders in northern KwaZulu-Natal,^{17,18} although the beverage is being sold there and perhaps it is only a matter of

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time before the trade develops.

The study reported here investigated the relatively new and expanding endogenous trade in marula beer in Bushbuckridge. I describe the process by which rural households convert the marula resource into a commodity that is sold in the market to generate cash income. Emphasis is also placed on understanding the contribution this activity makes to traders' livelihood security, and how it fits in with other livelihood options and strategies including its role in poverty alleviation.

Study area

The Bushbuckridge district (31°0'–31°35'S; 24°30'–25°0'E), an area of some 2420 km², lies in the Limpopo province of South Africa between the Drakensberg escarpment in the west and the Kruger National Park in the east. The area consists of 65 settlements, varying in size from fewer than 100 homesteads to over 800, surrounded by some 1565 km² of communal range-land. Like most rural communities across the globe, people in Bushbuckridge are highly dependent on communal lands for a range of goods and services that contribute to their everyday livelihood needs, including grazing, fuelwood, wild fruits and herbs, wood for construction and tools, medicines and craft materials.

There is a strong gradient of decreasing annual rainfall across the district, from 1200 mm in the west against the Drakensberg escarpment to 500 mm in the east. Mean annual temperature is approximately 22°C, and frost is rare. The natural vegetation is open, deciduous woodland. Two broad vegetation types are evident, Lowveld Sour Bushveld in the wetter west, grading to Lowveld in the east.¹⁹ *S. birrea* occurs throughout the region, and, owing to its relatively large size, comprises more than 25% of above-ground woody plant biomass. Densities of adult trees vary according to land-use from 40–100 stems ha⁻¹.⁸ The highest densities are found in the communal lands, but marula trees have also been retained in individual fields and homesteads. Planting to augment private supplies is also common.¹³

Human population densities are high at approximately 150 people per km² in the east and 300 per km² in the west, with a total population of some 700 000 in the district. Unemployment runs between 40% and 80%.²⁰ Approximately half of the adult male population and 14% of women engage in migrant labour.²⁰ Average household incomes range from R178 to R1131 per month, with most households living below the poverty line of R1050 per month for a family of four.²¹ Livelihoods are diverse and complex, built around a range of activities including formal employment and migrant remittances, subsistence farming, livestock production, resource gathering, petty trading, micro-enterprises such as sewing and welding, and state welfare grants. HIV/AIDS is prevalent in the area, with severely negative consequences for many households.

Methods

Fifty-one beer traders (some 20% of all sellers) were randomly interviewed alongside the main road and in the five main business centres in the Bushbuckridge district, namely Acornhoek, Thulamahashe, Bushbuckridge, Mkhuhlu and Hazyview, at the beginning of the fruiting season in late January and early February 2002. Between ten and eleven traders were interviewed in each market except for Mkhuhlu where only two traders were encountered. A semi-structured interview was administered in the local language (*Tsonga* or *Pedi*) through an interpreter. Interviews covered the characteristics of traders, the nature of the market, production and income, sources of fruit, problems and constraints, and sustainability issues. In addition,

a full count of all traders in each market, where they came from, when they had started selling marula beer and their daily sales was carried out each time one of the markets was visited. Most markets were visited two or three times. Data from a comprehensive random household survey of four villages in the region, incorporating 142 households, were also used to complement the findings from the market survey and for comparative analysis.¹³

The volumes of beer sold were calculated indirectly from traders' recall of gross income earned per day from sales over a period of 3–5 days (that is, yesterday, the day before and so on). A mean over a number of days was preferable as sales could vary quite widely from one day to the next. Data were obtained from the market counts, as well as individual interviews, providing a large sample. Income per day was then averaged and converted to litres by dividing by the unit price. Seasonal returns from beer sales were calculated as the product of the trader's average daily income (calculated as above), the number of days the trader visited the market in a week, and the number of weeks she or he anticipated selling over the season.

Total household cash income, a notoriously difficult variable to quantify accurately owing to its sensitive and private nature and the need to rely on interviewees' recall and honesty, was determined through careful questioning of income sources households drew on. Respondents were asked whether their households received pensions, child grants, or other state support (all fixed amounts per month), and whether they had formally employed or self-employed members. The occupations of these members were then noted, as well as whether they contributed all or some of their earnings to the household (usually the full amount if the member was resident and a portion if a migrant worker). The latter provided a means to crosscheck and probe the actual figures offered, and to deduce contributions when respondents were unwilling to share these.

Results and discussion

A profile of traders and their households

The marula beer trade chain is relatively simple and involves primarily one group of actors — beer producer-traders — who harvest the raw material, process the beer and sell this to the consumers. Amongst the beer traders interviewed, 80% were responsible for all three of these functions, while the remaining 20% were young adults or children who sold beer prepared by their mothers. All but one of the traders was female. The single male encountered was selling beer for his mother, standing in for her when she had other commitments. All beer processing was undertaken by women, although sometimes with assistance from other family members.

The average age of traders was 34 ± 2 years (Table 1). This tends to be considerably younger than that found for other products traded in the study area (pers. obs.). However, there was wide variation in age, from 13 years (a school child selling beer at the side of the road after school) to 60 years. Approximately 48% of traders were 30 years old or less, 38% were between 30 and 50 years of age, and 14% were older than 50 (Table 1). Traders' education profiles matched this age distribution, with most being relatively well educated. More than half the sellers had attended secondary school and 16% had completed their matric (school-leaving certificate) (Table 1). Only 12% had no formal education. One trader, operating at Hazyview, had a diploma in marketing, but had been unable to find employment. She was innovative, selling marula beer mixed with ice cream. The young age and high levels of education of large numbers of beer traders suggest that this activity may be

a 'stopgap' while producers seek other sources of income. Furthermore, some children were selling beer solely to earn income to pay their school fees.

About 44% of the beer traders were married women, a number of whom mentioned that their husbands had been retrenched in the last two years. Twenty-seven per cent were single women, either unmarried, divorced or widowed, and the remainder (29%) were adult or school-going children still living at home (Table 1). Amongst the children selling for their mothers, over 60% did not have a father in the household. Thus, essentially half the traders were from female-headed households, a particularly vulnerable group.²² This proportion is higher than the one third of female-headed households found in a random household survey¹³ and for South Africa as a whole.²²

Trading households were particularly poor. Over 45% had no regular or stable source of income (Table 1) — a significantly higher proportion ($\chi^2 = 26.9$, d.f. = 1, $P < 0.01$) than the 11% found for the random household survey.¹³ Only 20% of trading households had members with a permanent, formal job, and 20% had someone contributing a monthly pension (Table 1). Compared with the random household survey, this was found to be significantly less than the 35% and 36%, respectively, found for that sample ($\chi^2 = 3.9$, d.f. = 1, $P < 0.05$; $\chi^2 = 3.8$, d.f. = 1, $P < 0.05$). Several households (22%) were receiving child grants of R150 per month (Table 1). A few households were so destitute that they relied almost entirely on relatives for food. Over 62% of households had incomes of less than R500 per month, while only two (4%) had earned over R1000 per month (Table 1). The mean total annual income of beer trading households was R6205, significantly lower than the R11 706 found in the random household sample (Mann-Whitney $U = 2413$, $P < 0.05$). Comparison of total annual cash income between trading households and the general population based on income quartiles derived from the random household survey confirmed that beer traders were representative of the poorest sector of the Bushbuckridge community (Fig. 1). Almost all trading households (mean size = 6.8 people) fell below the poverty line of R1050 per month, or R250 per adult equivalent reported by Carter and May,²¹ and the more recent 2003 Minimum Living Level of R1871 for a household of 4.7 people.²³

Importance of beer sales, reasons for entering the trade and years in the trade

Some 41% of traders rated self-employment, including the sales of marula beer, as their most important source of cash income (Table 1). Formal full-time jobs and remittances were

Table 1. Individual and household characteristics of marula beer traders and their reasons for entering the trade.

Characteristic	Class	% of traders
Age	≤20 years	18
	21–30 years	30
	31–40 years	22
	41–50 years	16
	51–60 years	12
	>60 years	2
	Mean ± s.e.	33.8 ± 1.8
Education	None	12
	Primary	24
	Secondary	48
	School-leaving certificate	14
	Tertiary	2
	Mean no. of years of school ± s.e.	8.1 ± 0.4
Marital status	Married	43
	Independent single (divorced, unmarried)	22
	Widowed	5
	Dependent single (child)	29
Sources of household income other than trade [#]	At least one part-time or full-time job	27
	At least one pension	20
	At least one child grant	20
	No regular source of income	45
Formal permanent employment	No jobs in household	80
	≥One job	20
Total monthly cash income (R)	≤500 (class 1)	62
	>500–1000 (class 2)	33
	>1000–2000 (class 3)	2
Most important source of household income identified by respondents	Self-employment — beer and other*	41
	Pension	20
	Piece work	12
	Permanent job	18
	Remittance	3
	Family donations	4
	Farming	2
Reasons for entering marula beer trade [#]	Observed others doing this and decided to try it out	35
	Combination of suffering and observed others	18
	'Suffering and hunger'	14
	For money, as had no income in household	24
	For extra income — to help other earners	6
	Retrenchment	4

[#]Note: These categories are not mutually exclusive and therefore percentages add up to more than 100%. *This included activities such as vending, sewing, upholstery, wood sales, etc. [#]This is a summary and simplification of the reasons producers provided, based on an open-ended question. Some people provided more than one reason, so the numbers do not add up to 100%.

rated as the most important source of income in only 18% and 4% of cases, respectively, reflecting the fact that many traders were heading their own households or, if married, had unemployed husbands. Pensions were rated as important by only 20% of respondents, reflecting the relatively young age of the traders.

The importance of self-employment was well demonstrated in

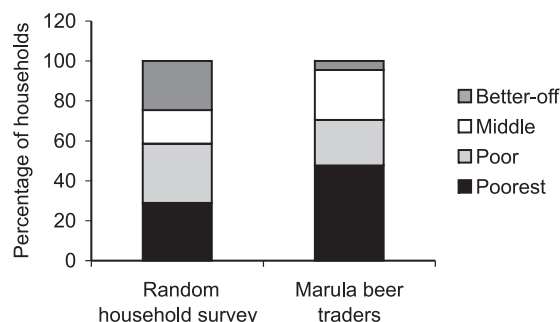


Fig. 1. A comparison of the wealth status of marula beer trading households and the random household sample. Wealth classes are based on quartiles derived from total annual cash income for the random household sample. Poorest = lowest — R3600, poor = >R3600–R8400, middle = >R8400–R15 090, better-off = >R15 090–highest. Net annual income from the sale of marula beer is included in the income for trading households.

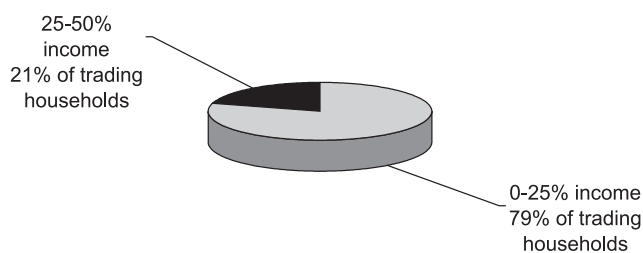


Fig. 2. Proportion of total annual cash income contributed by marula beer sales for trading households.

the array of other activities in which traders were engaging. Forty-six per cent were selling a range of other goods both from home and at 'pension markets' (the informal markets that spring up around pension pay-out points). Common items sold were ice, biscuits, soft drinks, snacks and vegetables. Three traders made clothes for sale or sold second-hand clothes, and one sold sorghum beer. Six traders were making use of other natural resources and produced grass mats, brooms, clay pots, grass screens and dried mopane worms for sale. More than half the traders sold marula kernels to an enterprise* purchasing marula products in Thulamahashe, while five sold these locally within their villages. Most respondents would have preferred to sell goods such as vegetables, chickens and clothes on a full-time basis, but many ran into cash flow problems — something people mentioned that they did not experience when harvesting a free resource such as marula fruits.

Because of the seasonality of the trade (2–4 months of the year), marula beer sales contributed only a small proportion, on average $14 \pm 2\%$, towards the total annual cash income of trading households. In no cases did beer sales contribute more than 50% of income (Fig. 2). However, over the selling season, marula beer contributed up to 100% of household income for some households during those months. These traders then sought other sources of income, including support from their social networks, for the remainder of the year.

Various reasons were given as to why traders had decided to start selling marula beer (Table 1), with most seeing it as a low cost opportunity to earn additional income. Commonly expressed reasons for entering the trade related to people's poverty, suffering, job loss and the need to earn money (41%). Other traders (35%) spoke about how their eyes had been opened to the opportunity after they had seen other people selling beer (Table 1) — several had not believed it possible to sell this product. Some traders (18%) provided a combination of these reasons, for example: 'life is difficult — I needed money. I saw people were selling and coming with money and so I decided to sell.' Numerous respondents mentioned how the money would assist them in paying school fees.

All traders interviewed had been selling beer for five years or less, with a third just starting out. It was not clear what got people selling beer in 1998, but it is likely that the presence of the marula project mentioned above had some influence by demonstrating that it was possible to market marula products commercially. Since 1998, the number of traders has grown considerably (Table 2), running the risk of market saturation. A similar rapid growth in the trade of marula beer was observed at four sites in Namibia, where, amongst households selling the product, 46% had started in 2001, and only a quarter had been trading for more than five years.¹²

*Marula Natural Products (Pty) Ltd is an employment creation and income generation initiative, originally funded by the U.K. Department for International Development and supported by the Mine Workers Development Agency, but established as an independent enterprise in 2003. The project produces oil from marula kernels, for use in the cosmetics industry, as well as fruit pulp.

Table 2. Duration of traders' participation in selling beer from 1998 to the time of the survey in February 2002, demonstrating its growth.

Year started	Number of years in the trade at the time of the survey	% of traders
1998	5	4
1999	4	4
2000	3	10
2001	2	44
2002	1 — just joined	33

Marula beer production: raw material availability and procurement

Fruit for beer production was procured mainly from the communal lands surrounding the villages from which traders came. Ninety-nine per cent of traders harvested from these areas. Some (38%) were also using fruit from trees in their own or neighbours' homestead plots or fields. Only one household used fruit solely from a tree in their plot. No restrictions on harvesting time, place or amount were reported, except where a tree was located in an individual's plot or field. In these cases the owner's permission was required in order to gather fruit. Marula is thus a relatively freely available resource, presenting opportunities to even the most marginalized of community members.

Some 83% of traders perceived there to be sufficient fruit to meet demand. Similar results, pointing to an adequate supply of fruit, were reflected in the production data of Shackleton *et al.*⁸ Minimal competition for fruit amongst traders and other users, including people using fruit at home and fruit sellers, was identified. The biggest threat to fruit availability appeared to be the use of marula trees for fuelwood, combined with the clearance of land for agriculture and infrastructural development. The few traders (17%) who felt there was a shortage of fruit attributed this to the felling of marula trees for these purposes.

Most fruit harvesting occurred between mid-January and mid-March, coinciding with the peak fruiting period. The first marula fruits start to ripen in late December and most trees came into full production by the end of January. Fruiting begins to taper off in March, although some trees will continue to bear fruit into April.

Traders went out in the early hours of the morning to collect fruit, sometimes as early as 03:00. They mentioned that if they did not do this they would not find adequate quantities of suitable produce (which to some extent contradicts the observation that there is no shortage), since collection works on a 'first come, first served basis'. The average collecting time was 2.4 ± 0.2 hours. Collectors gathered enough fruit each trip to make 20–50 litres of beer, i.e. between 70 and 140 kg. Collection was undertaken 2–3 times per week (mean = 2.6 ± 0.2), with traders attending the market on intervening days. Given the average

Table 3. Mean number of harvesting trips and quantities of marula fruit (kg) collected per trader during the harvesting season.

	Per trader
Mean number of collecting trips per season	17.0*
Mean number of 80-kg maize meal sacks collected per season at an average of 1.5 sacks per trip	25.5
Mean (\pm s.e.) quantity of fruit per sack (enough for 25 litres of beer) (kg)	73.6 \pm 5.8
Mean quantity of fruit harvested per season (kg)	1876.8

*Figures without standard errors were calculated from derived rather than original data.

trading season of six and a half weeks (see below), most traders were collecting about 17 times in a season (Table 3). The average total amount of fruit gathered per trader per season was approximately 1877 kg.

The majority of traders gathered fruit alone, whereas 19% were assisted by members of their family, primarily other adult women and children. Two women mentioned that their husbands helped. Wheelbarrows were often used to bring the harvest home; otherwise, harvesters carried the fruit on their heads in used 80-kg maize meal bags. Fruits were generally collected from a number of different trees to ensure that both sweet and sour/bitter fruits were obtained (collectors sampled the fruit for flavour before selecting it). Purportedly both types are required to make good beer. Slightly green fruits were preferred and these were ripened to the correct stage (a creamy yellow) in a shady place at the homestead. Most women were knowledgeable about where to find trees producing favourable fruit for beer making.

There were no costs, other than labour, involved in harvesting marula fruit, and, indeed, a number of interviewees mentioned that they had started selling marula beer because it was 'easy to get into' as it did not require the purchase of any stock or materials, nor was transport required. The closeness and accessibility of the marula trees, plus the lack of costs involved results in marula beer being one of the easiest products to make and sell in the district.

Marula beer processing

In the first step of processing, the skin of the fruit is split with a fork, deftly turned inside out, and then separated from the flesh and discarded. The pulp is then squeezed and the juice collected in a bucket. The nuts with the remaining flesh on them are placed in another bucket. Enough water just to cover the nuts is added to this second bucket, which is agitated to release any remaining juice and pulp. This is then added to the pure juice and left to ferment. This preparation stage is an intensive process taking, on average, 4.4 ± 0.3 hours to produce 20–50 litres of beer. In a season, brewers spend some 73.7 ± 9.1 hours making marula beer. During fermentation, the scum that forms on top of the liquid is removed once or twice daily. Some fresh juice may then be added. The beer is ready for drinking on the third day. It is usually decanted from buckets into 25-l drums prior to transporting to market. The 'shelf-life' of the beer is limited, only 2–4 days, depending on the ambient temperature. About one quarter of respondents mentioned that they could make the beer last longer if they topped it up with fresh juice on a daily basis for 2–3 days. Some producers owned fridges in which they stored the beer, but usually the volumes were too large. There were no direct costs involved in processing.

Markets, selling and prices

During the season beer markets could be found in all the major centres in Bushbuckridge, as well as alongside the main road that runs through the district (see methods). Traders used public transport, either minibus taxis or buses, to transport their beer in 25–30-l containers from their homes to these points of sale. On average, traders spent about 6.5 ± 0.3 weeks selling the beer, with most going to the markets from the end of January until the end of February. This period is slightly more than half of the full fruiting season of about 11.4 weeks. Apparently, the effort required to collect enough suitable fruits at the beginning and the end of the fruiting season seldom makes it worthwhile. However, a small proportion of traders (27%) were selling beer for up to 10 weeks.

The markets were informal and relatively unregulated; traders set up sales points wherever there was space, preferably in the busier areas. However, in both Thulamahashe and Bushbuckridge town traders were requested by the police to move away from taxi ranks and main roads to avoid accidents involving intoxicated customers. Traders, allegedly, were also harassed or forced out of the market by licensed alcohol sellers and other vendors and retailers in some of the centres. In all the markets there was little shelter for the traders from sun or rain. These poor conditions shortened the shelf-life of the beer and contributed to wastage.

Traders left home between 06:00 and 07:00 in the morning to reach the markets at about 08:00. The majority would stay until the end of the day, leaving between 17:00 and 18:00 or when they had sold the last of their stocks. On average, traders spent 9.7 ± 0.3 hours in the market per day. Over a typical selling season this amounts to an average of 168 ± 16 hours. The maximum time anyone spent selling was 566 hours (almost the entire fruiting season) and the minimum was 30 hours.

Beer was sold in two main units: 2-l milk or soft drink bottles and by the 740 g (about 750 ml) 'mayonnaise' jar. The 2-l bottles cost R5.00 each in all the markets except Hazyview, where the price was R6.00–R7.50. A 'mayonnaise' jar was priced at R2.00, except in Hazyview, where it went for R2.50. Customers purchasing jars of beer drank it *in situ* and returned the jar to the vendors. The average price per litre for beer was $R2.9 \pm 0.1$. All customers were permitted to taste the beer before purchase.

Traders brought on average 28.8 ± 2.0 litres of beer to the market each visit. The average amount of beer sold per day was 17.4 ± 2.1 litres, worth about $R43.38 \pm 13.68$. This was about 40–70% of stocks. Left-over beer was usually taken home for family and neighbours to drink. Over the season of 6.5 weeks, each trader sold about 296 ± 49 litres of beer. On any single day, based on the numbers of traders in the market, that there was approximately 600 litres of beer in each market centre for sale, making about 3000 litres in all. This amounts to a total of some 100 000 litres over the season.

Transport to the market was one of the few direct costs traders incurred. They spent on average $R9.41 \pm 1.01$ per day on bus or taxi fares. Other fairly minor costs included food, drinks and the occasional purchase of 2-l bottles, adding up to about $R3.32 \pm 0.53$ per day. Total marketing costs were approximately $R192 \pm 24$ per season (noting that most traders were selling on average 2.8 times per week). However, transport costs varied quite widely, depending on where traders were coming from and their destination. Traders generally sold in their closest business centre. Hazyview was the most expensive sales point to reach, at about R20 per return trip. Traders selling here spent up to R280

Table 4. Estimated mean gross and net seasonal incomes per trader from selling marula beer, as well as direct costs and labour inputs incurred over the season.

Income type	Calculated from beer sales
Mean (\pm s.e.) gross seasonal income (R)	687 \pm 67
Mean gross monthly income (R) (calculated from above and length of selling season)	423
Mean (\pm s.e.) costs (R)	193 \pm 24
Mean (\pm s.e.) net seasonal income (R)	500 \pm 74
Mean (\pm s.e.) net monthly income (R) (calculated from above and length of selling season)	308
Mean (\pm s.e.) labour inputs per season (hours):	
Beer production	73.7 \pm 9.1
Selling	168 \pm 16
Total	241.7

Net income as presented here is equal to gross income minus all costs except the opportunity costs of labour.

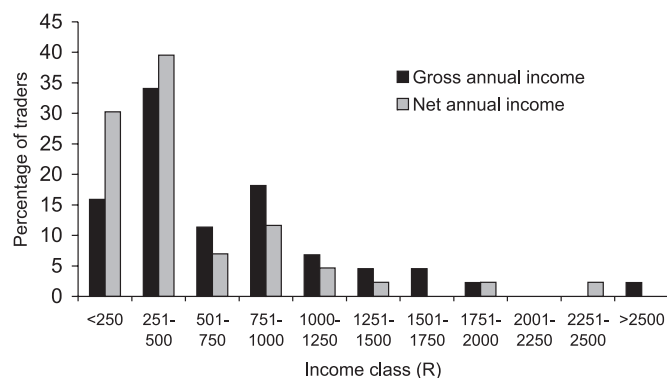


Fig. 3. Distribution of gross and net seasonal income (rands) earned from marula beer sales in intervals of R250, showing the variation in earnings that exists.

per season on fares, although the slightly higher price of beer in this market helped offset this. The next highest costs were to Bushbuckridge town, at R10–R12 per return trip. Thulamahashe, being relatively central to the villages from which traders came, was the least costly sales point to reach. Some traders walked to this market. Those selling at the side of the main road had no transport costs, as they would operate within easy walking distance of their homes, if not directly in front of them. Overall, costs were on average about 28% of income.

Contribution of the marula beer trade to household livelihoods

Incomes earned

Traders earned an average net income of R500 ± 74 per season (Table 4). Mean gross income per trader was R687 ± 67. However, there was marked variation in incomes. Gross incomes varied between R84 and R2664, and net incomes between R84 and R2299 (Fig. 3). The variation was largely due to the period traders were selling and the number of times per week they visited the market ($r = 0.31$, $P < 0.05$), rather than daily sales of beer. If traders produced beer for the entire fruiting season (11 weeks), they would be able almost to double these earnings. This wide variation in income among individuals is a common pattern when natural resource products are involved.²⁴

Labour inputs to collect the fruit, make and sell the beer were relatively high at about 241 hours per person per season (Table 4). Net income per hour of work was R2.00 or R16.00 per day, which is above the going wage rate for semi-skilled labour for the region of R12.50 per day. Beer traders were thus able to earn 1.3 times more income for their effort than the average farm worker, albeit only for a maximum of two to three months of the year. Calculation of returns to labour based on two scenarios — the present local wage rate of R12.50 per day and the proposed minimum wage of R20.00 per day — indicated profits for traders in terms of the former but not the latter (Table 5).²⁵

Table 5. Mean net seasonal income per trader incorporating the opportunity costs of labour at the local wage rate of R12.50 per hour and the minimum wage rate of R20.00 per hour.

	Excluding labour costs	Including labour (opportunity) costs	
		R12.50/h	R20.00/h
Total costs	R193	R570	R797
Income	R687	R687	R687
Net profit/loss	R495*	R117	–R110
Percentage	72	17	–16
Opportunity costs (i.e. paid if worked the equivalent days)	–	R378	R604

Source: Mander *et al.*²⁵

*Note this is slightly different from the mean in Table 4, where gross income minus costs was calculated on a case-by-case basis from the original data.

Traders' perceptions of the trade and its importance for their livelihoods

Marula beer traders sold beer because it presented a low cost opportunity to earn income at a critical time of the year. Many traders had no source of regular income, and selling marula beer represented one of many activities these women undertook to make ends meet. Although traders were generally pleased with their returns, many recognized that marula beer, because of its seasonality, could never be anything more than a welcome injection of cash during the first three months of the year. Because of this, 80% of traders would prefer a more permanent source of income, or to have the cash flow to trade in products that can be sold throughout the year such as clothes and vegetables. That said, traders identified numerous benefits from the marula beer trade. These included the opportunity to earn income without having to invest in purchasing stocks, the chance to pay school fees and buy food, and the opportunity to earn as much as R50 a day for a few weeks.

The growth in the trade indicates that local women find it a worthwhile activity in which to participate, albeit often as a last resort. However, although more people are now earning income from this practice, the returns per producer may be decreasing. Forty per cent of established traders believed that their sales and income had declined due to the increase in the number of traders in the market. Those that had been operating since 1998/99 mentioned that whereas formerly they usually sold all their stocks before lunchtime, now they were sometimes returning home with beer. It is thus questionable whether the current market can continue to support the growth in traders

Livelihood benefits from trading in marula beer

Although the contribution that the beer trade makes to income is highly seasonal and short-lived, contributing only 14% to the total annual cash income of households, it comes at a crucial time in the household calendar. January marks the beginning of the new school year, when there is a considerable need for cash to pay school fees, and to buy school uniforms, shoes and books. It is also the time of the year when most households are particularly cash-strapped after the festive season. Approximately half the traders indicated that they used the income from beer sales primarily to cover school expenses. One seller described how

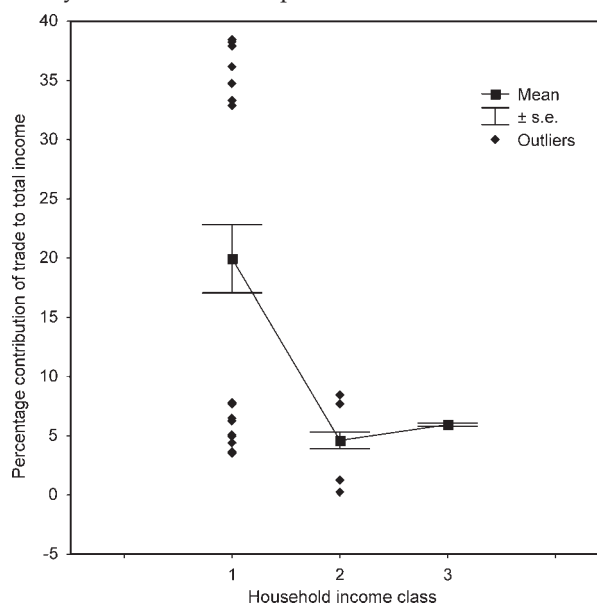


Fig. 4. Percentage contribution of the marula beer trade to total cash income of households of differing income status. Classes are based on the income categories provided in Table 1.

she had paid her daughter's high school fees from her earnings, and that she would continue selling until she had enough to pay for her other daughter's primary school fees. One young woman was making and selling beer to pay her own school fees. The other main use of earnings was to purchase food, while four traders mentioned reinvesting their earnings in other income-generating activities. The proportional contribution of beer sales to total cash income was significantly higher for poorer households (mean = $19.9 \pm 2.8\%$ compared to $4.6 \pm 0.7\%$ and $5.9 \pm 0.1\%$, respectively, for the higher income classes), making this an important source of income for them (Fig. 4) (Kruskal-Wallis $H = 13.0$, d.f. = 2, $P < 0.01$). This mirrors the findings from several studies around the world, which show that the poorest households tend to derive a greater percentage of their income from natural resource products than better-off households.²⁴

Traders selling at the side of the national road tended to make less than those selling in the towns. On some days they earned as little as R5–R10. However, this money was said to be enough to buy bread or a packet of chicken feet, and was 'better than nothing'. Many of the households involved tended to live on a 'hand-to-mouth' basis. In this context, even a few rands were said to help put food on the table or to relieve cash flow problems. A couple of women, however, mentioned that there was nothing particularly positive about selling marula beer — 'it was just another way to get a little money'.

In addition to earning income, the women involved gained entrepreneurial skills with some mentioning that selling beer had given them ideas for marketing other products. Social networks amongst traders from the same village, as well as other villages, were strengthened, with some of these women now supporting one another in other trading ventures. Furthermore, the bonds and informal social organizations that have emerged may be important in the future, as increased trader cooperation will be required if markets are to be expanded. The importance of such social capital has been described for palm wine traders in Sierra Leone.²⁶ Independence and self-esteem were also highlighted as important non-financial benefits, decreasing the dependence of the poorest traders on transfers and food donations from relatives or neighbours.

Conclusions

The sale of marula beer provides a readily accessible source of income for approximately 300 households from amongst the poorest sector of the Bushbuckridge community. There is little doubt that the cash earned from the sales of marula beer, however small, was a welcome relief to the households involved, and provided traders with another source of income to add to their already diverse livelihood base. Indeed, commercialization of marula beer has had the effect of expanding the limited choices that people have to earn income. This product is most important in overcoming shortfalls in income, in providing cash at crucial times in the household calendar (for instance, for school fees), thereby assisting households to cope with unusual expenses, in diversifying livelihood options, and in offering a safety net or survival strategy for the poorest members of society. Much of its value lies in the timing rather than the magnitude of the income. Marula beer thus plays a significant role in poverty amelioration, as the growing numbers of people joining the trade attest, but, owing to its seasonality, is unlikely ever to become a major income earner or provide a route out of poverty.

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