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Toward a remunerating price tag to coffee: lessons from the liberalisation of the coffee industry in Uganda

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Abstract

Coffee is the main cash crop in the Ugandan economy contributing to over 50% of GDP, about 65% of the total export earnings and 80% of household employment. A predominately smallholder practice, coffee farming is done mainly by resource-poor farmers on holdings of 2 hectares of land or less. The perenniality of the crop dictates an intergenerational hold on land, which poses land ownership, inheritance, labor and gender complexities with serious consequences on land and environment degradation and, ultimately on incomes, welfare and survival of the coffee-farming households. It is now widely recognized that the smallholder practices have resulted in land degradation. Nutrient losses to the agricultural system are not being sufficiently replaced, which has subsequently had a serious impact on crop productivity. A trade account of gains and losses of nutrients in the export of the produce at national level is constructed and the sheer scale of resource loss put simply as the "invisible cost" is alarming. And yet evidence now available links soil degradation and poor farming practices to higher susceptibility of coffee to Coffee Wilt Disease (CWD) attack, for instance. Whereas liberalization in 1991 has revamped the sub-sector, it has not nonetheless come without any cones. A "too much opened up" case to critics, it has been distorted, misunderstood and out rightly exploited. With the depressed world market prices currently, pressure has mounted for Uganda to produce for gourmet and specialty market niches. This spells not entirely new challenges but, no doubt, bigger problems for an already over-stretched and more often overwhelmed regulatory system in place.

Key words: *Liberalization, gourmet market, coffee, invisible cost, nutrient trade account, coffee wilt disease, soil degradation*

Introduction

The Ugandan economy has in the past been characterized by drastic and usually downward changes which, unlike in other world economies, relate more to political rather than business trends. There have been busts during periods of unrest and civil strive (1971-1979; 1980-1986) and booms during periods with relative calm and stability (1986 to-date). Declines have ranged from small short falls to economic crises exemplified by breakdown, deterioration and decay of all dimensions of the Ugandan society (Bibangamba, 1999). Prosperity on the other hand has meant good economic growth, 5.3% in the 1960's and 8.5% currently, brought about by relatively high agricultural export performance.

Agriculture accounts for over 50% of GDP, more than 90% of the total export earnings and 80% of household employment. But it is subsistence in nature with many holdings as small as 2 hectares of land or less. A classification of GDP allots 43% and 57% to monetary and non-monetary segments, respectively. Spatially, monetisation is concentrated around areas producing agricultural exports, mainly coffee, cotton, tea, tobacco and a few of the food crops.

This paper is a review of the coffee sub-sector, scrutinizing thee effect of price and policy on production and economic performance of the commodity.

The coffee sub-sector

Importance of Coffee

As a leading traditional cash crop, coffee makes a big contribution to the foreign exchange earnings of Uganda, although with a declining trend; from 58% in the financial year 1997/1998 to 43% in 1998/1999

Table 1: Relative contributions of coffee and exports to total export earnings in Uganda (million US Dollars and as a percentage).

Exports	1992/3	1993/4	1994/5	1995/6	1996/7	1997/8	1998/9	1999/00
Total	172.8	264.7	595.3	590.5	680.1	465.5	541.14	436.6
Coffee	111.3	180	456.6	404.4	365.6	268.2	306.74	186.87
	64%	68%	77%	68%	54%	58%	57%	43%
Cotton	5.3	4.3	3.3	13.3	25.7	14.8	10.83	19.73
	3%	2%	1%	2%	4%	3%	2%	5%
Tea	10	12.1	11.7	12.5	20.8	37.8	22.67	26.56
	6%	5%	2%	2%	3%	8%	4%	6%
Fish	4.4	11.1	17	37.6	34.6	27.9	47.57	16.71
	3%	4%	3%	6%	5%	6%	9%	4%
Beans	7.6	10.5	11.7	7.5	6	2.2	4.62	4.82
	4%	4%	2%	1%	1%	0%	1%	1%
Maize	7.9	14	20.2	9.4	16.5	8.1	5.89	4.01
	5%	5%	3%	2%	2%	2%	1%	1%
Tobacco	6.75	5.91	8.09	7.94	8.61	10.81	22.86	22.43
	4%	2%	1%	1%	1%	2%	4%	5%
Others	19.47	26.86	67.22	97.42	202.12	85.71	128.06	105.55
	11%	10%	11%	16%	30%	18%	24%	24%

Source: MFPED statistical abstract vol. II, 2000.

(Table 1). The recent declining trend in the economic status of coffee is due to export diversification and falling world prices. Coffee still contributes significantly to the economy and provides employment to about one-eighth of the total population of Uganda, now estimated at 23 million, engaged in production, processing, local marketing and export levels (ICO, 1997). In Uganda current estimates put the total area under coffee at 310,000 hectares, of which 94% is planted to Robusta coffee and the other 6% to arabica species. Arabica varieties, which are generally more prone to attack by insect pests and diseases, are better grown in the highlands.

Coffee supply trends, sub-sector performance and post-liberalisation.

The Uganda small world producer status, makes the sub-sector performance trends move in typical resonance with the cyclical global supply trends (and therefore world prices). When there is weather failure (frosts/floods) in the big world producers like Brazil, world supply is reduced markedly for the Uganda sub-sector performance to augment. The sub-sector is currently experiencing a slump with depressed world market prices partly as a result of over supply/production in many countries (UCDA, 2000). Acreage and production of coffee expanded rapidly during the 1950s, in response to high producer prices/ high world market prices and by 1962, coffee was Uganda's leading export earner. Other factors that have adversely affected coffee production are internal wars in 1978/79, war and drought in 1979/80, escalated civil strife in 1983/86 and a prolonged dry spell in 1991/92 (Katale, 1996). With stability and relative calm that came in 1986, farmers responded by rehabilitating abandoned and/neglected gardens and established new plantations altogether (Buchanayandi et al., 1990). However, throughout this period there were the systematic high interventionist government policies that constrained the sub-sector.

In 1991, the coffee industry was liberalized. This policy framework has ensured efficiency in the internal coffee trade by bringing private players in all levels of the industry, especially at processing and export marketing (UCDA, 1994). Coffee production grew at 11% per annum during 1986-90. The year 1996/97 recorded the highest production of 4.4 million bags, propelling Uganda momentarily to world's second and Africa's leading Robusta coffee exporter (UCDA, 1997). After liberalization farmers got about 80% of the world price, compared to 20% prior to liberalization (UCDA, 1999). The private export sector is selling 98% of all the coffee today, a complete reversal of the state of affairs pre-liberalization where the private sector handled only 2% of the exports. The value of export has fluctuated highly: US$ 276.5 million in 1997/98, US$ 282.2 million in 1998/99 and approximately US$165.0 million in 1999/2000 (Table 2).

Source: UCDA databank.

The proportionate change in price does not however move in tandem with changes in volume (UCDA, 1999). This is believed to be due to the general declining trend

Table 2: Uganda's Coffee Exports from 1964/65 – 2000/01

Coffee season	Quantity (60 kg bags)	Value Us$	Unit value Us$/kg
64/65	2,158,736	76,820,312	0.59
65/66	2,855,621	106,126,982	0.62
66/67	2,637,862	146,548,850	0.93
67/68	2,967,825	139,078,017	0.78
68/69	2,670,201	162,473,613	1.01
69/70	3,193,638	185,874,447	0.97
70/71	3,032,609	130,818,018	0.72
71/72	3,139,559	145,469,659	0.77
72/73	3,677,100	175,549,153	0.80
73/74	3,283,183	228,518,975	1.16
74/75	2,861,399	175,337,140	1.02
75/76	2,431,524	245,222,753	1.68
76/77	2,449,737	558,512,578	3.80
77/78	1,742,575	312,097,360	2.99
78/79	2,353,031	389,108,354	2.76
79/80	2,219,802	433,471,715	3.25
80/81	1,973,458	230,463,637	1.95
81/82	2,785,647	322,030,310	1.93
82/83	2,194,888	295,259,322	2.24
83/84	2,519,024	392,677,096	2.60
84/85	2,500,031	367,591,092	2.45
85/86	2,392,198	390,362,568	2.72
86/87	2,280,206	308,594,658	2.26
87/88	2,318,341	263,239,573	1.89
88/89	3,114,396	294,867,882	1.58
89/90	2,364,751	139,566,731	0.98
90/91	2,085,004	121,343,113	0.97
91/92	2,030,829	101,442,768	0.83
92/93	2,088,642	108,873,991	0.87
93/94	3,005,205	273,658,850	1.52
94/95	2,792,753	432,651,034	2.58
95/96	4,148,803	388,916,157	1.56
96/97	4,237,114	355,126,641	1.40
97/98	3,032,338	276,476,134	1.52
98/99	3,647,696	282,207,230	1.29
99/00	2,917,257	164,763,789	0.94
00/01*	1,447,734	54,361,479	0.63

* Up to March 2001

in world coffee prices and to the unfavorable north-south trade terms.

Liberalization has not come without any cones. A "too much-opened up" case, to critics, has been distorted, misunderstood and out rightly exploited. Whereas it has fostered competition, it has left a lot of room for collusion. Foreign investors, who have easier access to cheap credit and loans, even for crop finance, have disadvantaged local exporters. Consequently the 98% privately owned export business has seen the unprecedented opening registrations dwindle to just a handful of big operators (UCTF Yearbook, 1998).

Due to excessive uncontrolled trading behavior of market participants, ensuring quality has become a big sub-sector problem. As a result, Uganda coffee exports have suffered punitive reductions of price premiums awarded to Uganda coffees for a long time. Quality deterioration due to mycotoxin accumulation caused partly by poor post harvesting handling is on the increase and has raised concern to consumers. The general drift in Uganda is for the quality of coffee to fall with higher prices offered for the produce locally (UCDA, 1999). A well-regulated coffee market therefore, that addresses quality is imperative. Moreover the price-taker portfolio of Uganda resulting from world market-determined prices has less regard to the cost of production.

Coffee production methods in Uganda

Traditionally grown as an inter-crop on small farmer holdings, coffee forms an integral part in the agro-zoning of the traditional cropping/farming systems in Uganda. The coffee-banana system is the largest with coverage of close to 29.54% of total cultivated area. Coffee/banana/beans covers 3.64%, coffee/cassava at 3.5% and coffee/beans at 1.26% (Ngambeki et al., 1992). There is no evidence however; that this zoning is ecological, but rather an imposition by the colonial governments because of the perceived role the crop was to play in the economy. This may be the reason why coffee occupies the relatively fertile and moist lake Victoria crescent region, parts of eastern region, southern and southwestern region, parts of west Nile region, and the western region and around the foot of the Rwenzori mountain ranges. The marginal northern, northeastern and parts of the far eastern region were left to cultivation of the more hardy grasses and legumes and largely to animal herding. Those living in fragile or marginal agro-ecological zones are often forced to farm increasingly marginal lands, which contribute to processes of deforestation and desertification (WFP, 1999).

In Uganda, soils have organic matter as their major source of available nutrients following mineralisation. Coffee, a heavy feeding tree thicket (Rehm and Espig, 1991) with an extensive well-ramified root network system (Kochar, 1986; Purseglove, 1987) satisfies the necessary and sufficient conditions of an efficient nutrient miner. The smallholder coffee farmer inherently, has little or no soil fertility restoration measures. Consequently soil fertility is on the decline, a phenomenon exacerbated by nutrient removal from crop harvests that are not being replaced even in part, by nutrients from the limited organic inputs. Market liberalization policies have partly led to increases in prices of key inputs like fertilizers as well as reduced access to input and market outlets (WFP, 1999). Moreover the nutrient supplements are neither available nor affordable to the resource-poor farmers. A general outlook places Uganda as one of the lowest consumers of fertilizers in the world. The national average fertilizer usage is less than 1 kg of nutrient per hectare per year

compared to the global average of 89kg of nutrient per year; yet it is estimated that a depletion rate of 87kg of nutrient per hectare (38kg N, 17kg P and 32kg K) is experienced in Uganda annually (MAAIF, 2000). Kenya and Malawi use about 275,000 tonnenes and 150,000 tonnenes of fertilizer product per year respectively, while Uganda imports only 12,000-15,000 tonnenes of fertilizer product per year. The authors' calculation shows that 216,000 tonnenes of coffee exported had the equivalent of 8640 tonnenes of nitrogen, 648 tonnenes of phosphorous and 7776 tonnenes of potassium (adopted from Clifford and Willson, 1987). The US dollar equivalent of this nutrient export is $ 17 million, equivalent to only 6% of the revenue earned.

A commodity-specific trade account of gains and losses of nutrients in coffee export in 1997/1998 (Table 3) shows that less than 10% of the mineral loss to export is restored.

We contend that until the governments and farming communities take such observation to understand and practice fertilization as a recurrent cost of production, coffee yields will continue to be low and declining and accentuating pest and disease impact. This has been realized in the case of the Coffee Wilt Disease, CWD (Tracheomycosis) outbreak. Evidence now available links soil degradation, poor farming practices and old age of tree stocks to higher susceptibility of coffee to CWD attack (Munyambonera, 2000).

Table 3: Nutrient trade account

Produce	1995	1996	1997	1998	1999	2000
Fertiliser import (000)t year $^{-1}$	5,070	5,587	12,936	7,096	10.95	12,945
Sum of nutrient export as coffee beans exported (000) t	13,237	14,935	20,083	14,373	17,290	13,827
Sum of nutrient fertiliser utilisation for coffee 17%* (000) t yr^{-1}	861.9	949.79	2199.12	1206.32	1833.11	2200.65
Percentage of Nutrient export replaced via mineral fertilisation	6.5	6.3	10.95	8.39	10.60	15.9

Source: Authors' calculations, 2001 based on Data from URA, MAAIF and UCDA
***Organic fertilisation is the most prevalent in coffee growing but has not been included for ease of calculation. It is however believed that its omission will not change the result significantly.**

Coffee Wilt Disease, a devastating fungal disease, attacks the vascular system of the plant and blocks it causing the plant to wilt and eventually die. Affected trees take only between a few weeks to six months to die (Hakiza, 1997). First reported in 1993 in Bundibugyo, the disease had spread to eastern Uganda by 1997 (Hakiza, 1997). By 1998, the disease had been confirmed in 24 out of the 34 robusta growing districts (UCDA, 1998). Falling farmer incomes as a result of not just the crop loss but also uncertainty and risk posed by CWD at household level lead to reduced welfare. A study in Mpigi district shows the disease to have already affected farmers' earnings and subsequently their ability to meet household's cash requirements such as school fees, domestic needs, hired labour, taxes and investment (UCDA, 1998). The overall loss per affected farmer countrywide has been put to Ug.shs 130,000 per year, 30% of the average per capita income estimated at US$250 currently.

A pooled statistic of the total national loss to the disease is put at 4% or an equivalent of 12 million robusta tree stocks. At an average yield of 0.7kgs of clean coffee per tree, approximately 8.4 tonnes of clean coffee equivalent to an estimated Ug.shs.13.44 billion per year (UCTF yearbook, 1999). This income loss impact at national level manifests as instability of the macro-economic variables, especially the exchange rate and to a less extent inflation rate and interest rate. In order to uphold the national goals and possibly to preserve the national (/cultural) patrimony, the Uganda government has promptly responded by exploring new areas to shift the long ancestral practice as is seen in the Northern Uganda coffee programme. For an industry with more coffee stocks old and unimproved, the involuntary destruction of coffee may seem to be a short cut to a near industry-wide replanting. The government has a huge coffee replacement programme, and has funded massive production of planting materials for farmers, in a bid to offset the effects of the disease (UCDA, 1996). The sheer scale of this income shock inevitably threatens vulnerability even for the more endowed, of coffee farming households. As CWD escalates, the source of the farming communities' livelihoods and welfare, current and intergenerational is under such threat. Ultimately this will affect the survival of coffee farming households. Recurrent shocks to livelihood systems are making it more difficult for poor people to develop sustainable livelihoods (WFP, 1999). Farmers are known to respond to these shocks by acquiring debts, sell of assets, dis-saving, cutting back

on household expenditure, taking on wage employment, trading, migrating, living off gifts and remittances, and even living off theft (WFP, 1990). Identification of the coping strategies provides for a complete understanding of farmer behavior under crises such as the CWD induced income shock. Evaluation of the effectiveness of the coping strategies is a prerequisite. If CWD affected farmers are able to smooth their incomes by whatever means then, such government effort, as a replacement/replanting programme will be counterproductive at the least and, at the most, rendered redundant.

Conclusion

The industry thrust has been and still is to increase coffee export volumes. With dwindling prices at the world market, it seems rational. But with prices falling further, producing for niche markets may be a matter of strategy. At farmer-level, soil fertility restoration costs require assessment at recurrent cost level; Quality Regulation, stock replanting/replacement as national overheads require re-assessment for liberalization and globalization not seem like another economic upheaval in Uganda.

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