**REPORT

Volume 2

UGANDA

Diagnostic Trade Integration Study

June 2006

ABBREVIATIONS AND ACCRONYMS

€	Euro
ACP	African, Caribbean, and Pacific
ADT	Average Daily Traffic
ADZ	Aquaculture Development Zone
AfDB	African Development Bank
AGOA	African Growth and Opportunities Act
ASYCUDA	Automated System for Customs Data
BMU	Beach Management Units
BOU	Bank of Uganda
BRC	British Retail Consortium
C&F	Clearing and Forwarding
CA	Competent Authority
CAA	Civil Aviation Authority
CBC	Customs Business Center
CBI	Centre for the Promotion of Imports from developing countries
CBS	Community Based System
CDO	Cotton Development Organization
CEM	Country Economic Memorandum
CEO	Chief Executive Officer
CET	Common External Tariff
CG	Commissioner General
COMESA	Common Market for Eastern and Southern Africa Cooperation for Emerging Markets
CU	Customs Union
DAR	Directorate of Animal Resources
DCP	Department of Crop Protection
DFID	Department for International Development (UK)
DFR	Department of Fisheries Resources
DRC	Democratic Republic of Congo
DTI	Direct Trader Input
DTIS	Diagnostic Trade Integration Study
EAC	East African Community
EBA	Everything But Arms Initiative
EDF	European Development Fund
EDI	Electronic Data Interchange
EDP	Export Development Project
EIB	European Investment Bank
EPA	Environmental Protection Agency
EPADU	Export Promotion Analysis and Development Unit
ERP	Effective Rate of Protection
EU	European Union
EUREPGAP	Euro-Retailer Produce working group's Good Agricultural Practices
FDI	Foreign Direct Investment
FFP	Fair Flowers and Plants
FHL	Fresh Handling Limited
FIRRI	Fisheries Resources Research Institute
FLP	Flower Label Program
FMO	Netherlands Development Finance Company
FOB	Free on Board
Foodnet	"Post-Harvest Research and Market Network for East and Central Africa" Project
FPEAK	Flower Producers and Exporters Association of Kenya
FSAP	Financial Sector Assessment Program
FSSP	Fisheries Sector Strategic Plan
FTA	Free Trade Area
GAFRD	General Authority for Fish Resources Development
GAP	Good Agriculture Practices
GDP	Gross Domestic Product
GIS	Geographic Information System
GKMA	Greater Kampala Metropolitan Area
GMO	Genetically Modified Organisms
GMP	Good Manufacturing Practices
GNFS	Goods and Non-Factor Services
GNI	Gross National Income
GOK	Government of Kenya
GOU	Government of Uganda
GPS	Global Positioning Satellite
GSP	Generalised System of Preferences
ha	Hectare
HACCP	Hazard Analysis and Critical Control Points
HCDA	Horticultural Crops Development Authority
HORTEXA	Horticulture Exporters Association
HR	Human Resources
ICBT	Informal Cross Border Trade
ICD	Inland Container Depot
ICO	International Coffee Organization
IDEA	Investment in Developing Export Agriculture
IFAD	International Fund for Agricultural Development
IFS	International Financial Statistics
IFWG	Integrated Framework Working Group
ILM	Integrated Lake Management Project
ILO	International Labour Organisation
IMF	International Monetary Fund
IPPC	International Plant Protection Center
ISO	International Organization for Standardization
IT	Information Technology
ITC	International Trade Centre
IUU	Illegal, Unreported and Unregulated
JICA	Japan International Cooperation Agency
KEDS	Kenya Export Development Services
kg	Kilogram
KIP	Kampala Inland Port
km	Kilometer
KPA	Kenya Ports Authority
KPC	Kenya Pipeline Corporation
KRA	Kenya Revenue Authority
KRC	Kenya Railways Corporation
Ksh	Kenyan shilling
l	Litre
LDC	Least Developed Country
LVFO	Lake Victoria Fisheries Organisation
m	Million
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MCS	Monitoring Control and Surveillance
MEMD	Ministry of Energy and Mineral Development
MFN	Most Favoured Nation
MFPED	Ministry of Finance, Planning and Economic Development
MIS	Market Information Systems
MLG	Ministry of Local Government
MOH	Ministry of Health
MWHC	Ministry of Works, Housing and Communication
MPS	Milieu Project Sierteelt
MTCS	Medium Term Competitive Strategy
MTRA	Multi-sector Transport Regulatory Authority
MUV	Manufactured Import Unit Value
MTTI	Ministry of Tourism, Trade, and Industry

MWLE	Ministry of Water, Land and Environment
NAADS	National Agricultural Advisory Services
NARO	National Agricultural Research Organization
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NRA	National Roads Authority
NRP	Nominal Rate of Protection
NTMP	National Transport Master Plan
OECD	Organization for Economic Co-Operation and Development
OIE	World Organization for Animal Health
PEAP	Poverty Eradication Action Plan
PESP	Program for Economic Cooperation in Projects
PIP	Pesticide Initiative Program
PMA	Plan for Modernization of Agriculture
PMAESA	Port Management Association for Eastern and Southern Africa
POL	Petroleum Oils and Lubricants
PPP	Purchasing Power Parity
PSOM	Programma Samenwerking Opkomende Market Programme
PSP	Private Sector Participation
QC	Quality Control
RAFU	Road Agency Formation Unit
REER	Real Effective Exchange Rate
RER	Real Exchange Rate
RMP	Residue Monitoring Plan
ROO	Rule of Origin
RPED	Regional Program for Enterprise Development
RTA	Regional Trade Arrangement
SADC	South African Development Community
SCOPE	Strengthening the Competitiveness of Private Enterprise
SEP	Strategic Export program
SIC	Standard Industrial Classification
SPEG	Sea-freight Pineapple Exporters of Ghana
SPS	Sanitary and Phytosanitary
SSA	Sub-Saharan Africa
SWOT	Strengths, Weaknesses, Opportunities and Threats
t	Tonne
TASS	Technical Assistance and Support Services
TAZARA	Tanzania Zambia Railway Authority
TBL	Through Bill of Lading
TEU	Twenty-feet Equivalent Unit
TICTS	Tanzania International Container Terminal Service
tkm	Tonne Kilometre
TORs	Terms of Reference
TPA	Tanzania Ports Authority
TRC	Tanzania Railways Corporation
TTCA	Transit Transport Co-ordination Authority
TTF	Transport and Trade Facilitation
TUNADO	The Ugandan National Apiculture Development Organization
UAE	United Arab Emirates
UBOS	Uganda Bureau of Statistics
UCDA	Uganda Coffee Development Authority
UEPB	Uganda Export Promotion Board
UFA	Uganda Fisheries Authority
UFEA	Uganda Flower Exporters Association
UFPEA	Uganda Fish Processors and Exporters Association
UGSTDP	Uganda Sustainable Tourism Development Programme
UIP	Uganda Integrated Program
UK	United Kingdom
UMA	Uganda Manufacturers Association
UMACIS	Ugandan Manufacturer Association Consultancy and Information Services
UNBS	Uganda National Bureau of Standards
UNCOMTRADE	United Nations Commodity Trade
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UNRA	Uganda National Roads Authority
URA	Uganda Revenue Authority
URC	Uganda Railways Corporation
US $	United States Dollars
US	United States of America
USAID	United States Agency for International Development
USD	US Dollar
Ush	Ugandan Shilling
VAT	Value Added Tax
WB	World Bank
WC	Working Capital
WCO	World Customs Organization
WFP	World Food Programme
WTO	World Trade Organization
ZEGA	Zambia Export Growers Association

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1. AGRICULTURAL EXPORT CROPS

The agricultural sector is central to GOU's poverty reduction strategy, both because of its share in GDP (nearly 40 percent), and because of the large share of the population which reside in the rural area (87.6 percent). Poverty is also much more severe in the rural areas, where 41.7 percent of the rural population lives in poverty compared to 12.2 percent of the urban population. Hence, growth in agricultural incomes is the cornerstone for poverty reduction in the country.

Within the agricultural sector, crop farming is particularly important for poverty reduction, since around 70 percent of the poor in Uganda are employed in crop farming. Certainly, diversification from crops would be important for poverty reduction over the longer term. However, crops would be important for some time to come given the sheer numbers of people who depend on them as a source of income.

Amongst crop producers, those engaged in cash crop production fare better than those engaged in food crop production. Amongst crop farmers, coffee and maize producers fared the best, being 5 percent less likely to be poor compared to other crop farmers.

This chapter analyzes coffee, cotton, and tea in more detail with respect to constraints in and opportunities for exporting. These 3 crops have been selected because of their current importance in Uganda's exports—they are amongst the largest of Uganda's crop exports. Maize is another important crop, both in terms of export earnings as well as in terms of the livelihoods for a large number of people (see Volume 1, Chapter 8). The key issue with respect to maize that has been analyzed in the DTIS is quality—see discussion in Volume 1, Chapter 5.[1]

1.1 COFFEE[2]

Coffee is Uganda's largest export crop and also its largest merchandise export to international markets, amounting to US$145m. in 2004/05. It is a low input intensity small-holder crop with an average farm size of 0.2 hectares (ha) in Uganda, and is the main source of income for some 500,000 rural households. Over 80 percent of the coffee produced and exported from Uganda is robusta, with Arabica making up the remainder. Uganda's robusta coffee is considered to be one of the best in the world, and commands a considerable premium. Most Ugandan coffee is imported by the EU which together with Switzerland account for more than 80 percent of Uganda's coffee exports. Sudan imports 15 percent while the remainder goes to other destinations.

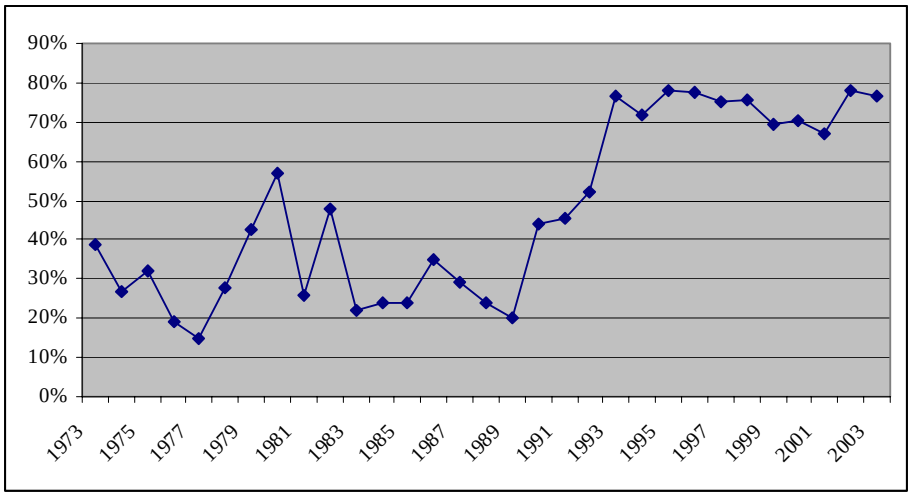
Sector Developments

Coffee was introduced in Uganda in the early 20th century. Following considerable expansion of the industry during the 1950s and 1960s, the sector experienced a huge setback due to the political and economic turmoil of the 1970s, when output halved within a 5-year period (1972-77). During the late 1980s, the sector (along with the rest of the economy) was liberalized. The reforms coupled with high prices led to considerable supply response, with exports exceeding 4 million bags for two years in a row (1995 and 1996), the only time in the

[1] Other issues with respect to maize is addressed in the forthcoming Uganda CEM.
[2] The discussion in this section is drawn from Baffes (2006a).

sector's history. By most accounts, the reforms have been successful.[3] Producers' share of export prices doubled (Figure 1.1) and growers receive payments promptly.[4] Entrepreneurial activity has increased enormously. Most importantly, there has been a well-documented poverty reduction impact on households of the coffee-growing regions.[5] There has been no backtracking of reforms.

Figure 1.1 Share of Export Prices Received by Producers



Source: Bibangambah (1996), Akiyama (2001), and the Uganda Coffee Development Authority (UCDA).

The world coffee price decline that began in 1997 had a negative impact on production (Figure 1.2). However, production continued to decline even after coffee prices recovered. Between 2001 and 2005, the International Coffee Organization (ICO) robusta indicator increased 44 percent, from US$0.61/kg to US$1.09/kg, while the Arabica indicator increased 88 percent, from US$1.37/kg to US$2.58/kg. Despite this price increase, Uganda's coffee exports fell 37 percent (from 3.15 to 2.30 m. bags). Moreover, this decline has taken place despite a replanting program designed to replace Uganda's ageing tree population with high yielding varieties as well as the introduction of coffee cultivation to new areas.

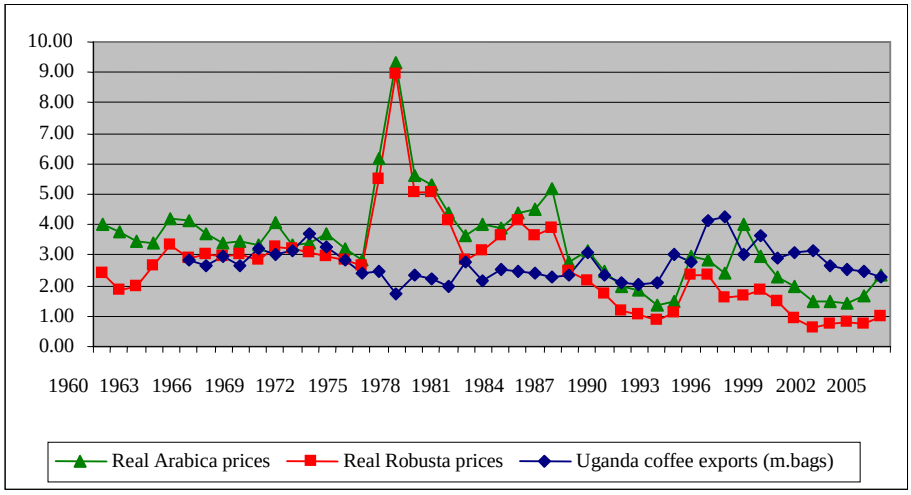
Contrary to much of the existing analysis which attributes the decline in coffee production to Uganda's poor marketing position in the global market, domestic marketing inefficiencies, weak regulatory framework and quality deterioration, this report finds that the coffee wilt disease and the ineffectiveness of the coffee replanting program are the main reasons instead.

The evidence shows that there has actually been an increase rather than decrease in the quality of Ugandan coffee exported. First, two different measures of Ugandan coffee export price—the export unit value (total export robusta earnings divided by quantity exported) and the Kampala free on truck (f.o.t.) grace SC 15 price[6]—as shares of ICO indicator have been trending upwards, which reflect an *increase* rather than a *decrease* in the quality of Ugandan coffee exported (Figure 1.3). Further, the share of low quality beans produced had actually been declining (as indicated by the type <SC 15 in Table 1.1). Lastly, the coffee referred for reprocessing during pre-shipment inspection (another indicator of quality at export level) has been declining. During the 19997/98 season, 424,600 bags of coffee were reprocessed while during 2003/04, only 54,197 bags were reprocessed (an 87 percent decline). To quote UCDA *2002/03 Annual Report* (p. 32): "The quantity referred to reprocessing had continued to

[3] Akiyama (2001).
[4] Krivonos (2003).
[5] Deininger and Okidi (2003).
[6] SC 15 refers to screen 1500, the grade of coffee accounting for two-thirds of Uganda's robusta output.

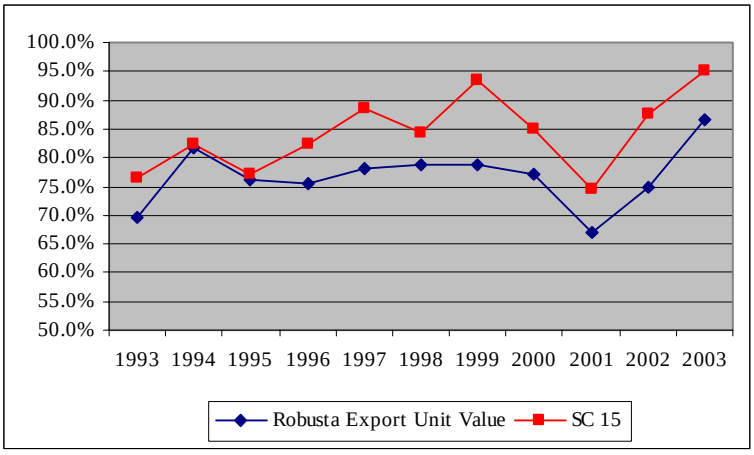
decline … a reflection of **improved quality** awareness along the supply chain" [emphasis added].

Figure 1.2 ICO Coffee Prices (US$/kg in real terms) and Uganda Coffee Exports (m.bags)



Source: World Bank and the U.S. Department of Agriculture.
Note: Manufacture import unit value (MUV) (World Bank) has been used to convert nominal to real prices.

Figure 1.3 Ugandan robusta coffee export prices as shares of ICO indicator



Source: World Bank calculations based on World Bank, UCDA, and IMF data.

While the evidence overwhelming shows that there has not been a decline in the quality of coffee *exported*, on the other hand there has been a decline in the quality of coffee *purchased by exporters from traders* with respect to foreign matter content (bean defects, husks, leaves, pieces of wood, stone). This has increased from 5 percent prior to the reforms to 12 percent presently. The increase in foreign matter content is attributed mostly to middle-men rather than farmers because small (*kiboko*) traders who deal directly with coffee growers buy very small quantities that can be easily monitored, but monitoring quality at the middleman level becomes more costly because larger quantities of coffee are involved.

It does not appear that the coffee marketing chain is poorly structured. While there has been a decline in the number of exporters active in the sector, from a high of 78[7] in 1995 to about 25 presently,[8] a Herfindahl index of market concentration[9] constructed for the post-1993 period (Figure 1.4) shows a very low level of market concentration for most years (the index being well below 10 percent) and no evidence of any upward trend. This finding is consistent with an earlier study which examined coffee export concentration issues in Uganda in a more comprehensive manner.[10] The key reason behind the exit of most coffee exporters was the lack of hedging. During the period of rising coffee prices, these exporters who did not hedge were in a relatively better position compared to those that hedged because, in addition to buying low and selling high, they did not incur hedging fees. However, when prices declined, these exporters were buying high and selling low which, combined with the absence of hedging, drove them out of business.

Table 1.1 Shares of Coffee Production by Type and Quality (in percent)

	ARABICA	*ROBUSTA*	*Different Grades of Robusta*			
			> SC 15	*SC 15*	*<SC 15*	*OTHERS*
1997/98	11	89	12	63	20	5
1998/99	10	90	6	56	32	5
1999/2000	18	82	9	63	24	4
2000/01	15	85	12	60	23	6
2001/02	14	86	14	60	21	5
2002/03	17	83	13	56	23	8
2003/04	19	81	14	58	16	12

Notes: The shares of arabica and robusta refer to total coffee while the remaining shares refer to robusta coffee (that is, second and third column add to 100; the last four columns add to 100). Others include lower grade as well as specialty/organic.
Source: UCDA.

Finally, while there is a large number of traders involved in the sector (which is viewed by some as unnecessary and adding excessive costs to the industry), this is unavoidable since the Ugandan coffee sector consists primarily of smallholders which necessitates several levels of aggregation before adequate coffee quantities are collected to reach exporters' processing facilities in Kampala.[11] *Kiboko* traders buy small quantities from robusta growers who transport them to coffee mills for hulling services for a fee. After milling, most *kiboko* traders sell the green beans to the FAQ (fair average quality) traders who, after accumulating larger quantities, sell to exporters. The *kiboko* and FAQ traders connect the 500,000 coffee growers—each of whom produces an average of 5-6 bags of coffee—with the 15 exporters that account for 95 percent of Uganda's coffee exports, each of whom handles an average of 160,000 bags of coffee.

[7] Often the number of coffee exporters quoted is 150. However, this number refers to registered not active exporters.

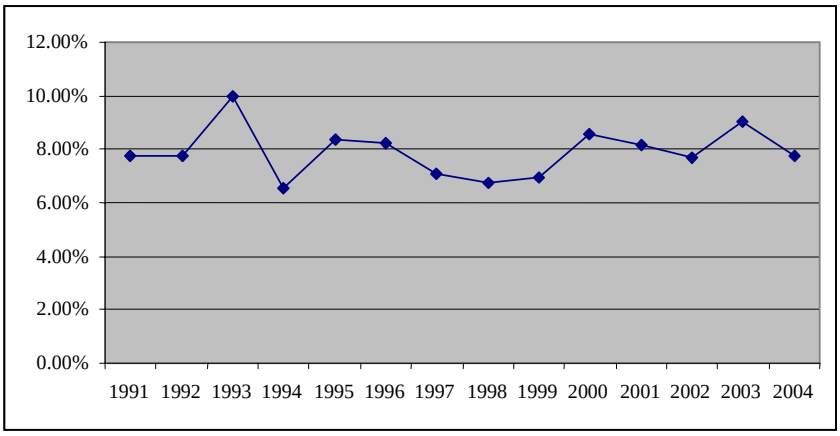
[8] This had risen from only 1 (the Coffee Board) in 1990 to 55 in 1993 following liberalization, before reaching the peak of 78 in 1995.

[9] The Herfindahl index of market concentration is calculated as the sum of squared shares of all exporters. A value close to one implies that one company accounts for most of the exports while a value close to zero implies that a large number of firms have approximately equal and small shares. Values of less than 0.10 typically imply a highly competitive industry. Other measurers of concentration are the Largest-5 or Largest-10, that is, the share of the largest 5 or largest 10 firms. The same result is obtained when these measures are applied.

[10] Nsibirwa (2002).

[11] Exception to this is a new 1,840-hectare robusta estate (Kaweri Coffee Plantation LTD, member of the Nuemann Kaffe Gruppe.) The estate employs about 2,000 workers, 200 of which are permanent staff, and is not associated with any outgrower schemes (author's interview, September 17, 2005).

Figure 1.4 Herfindahl Concentration Index of Coffee Exporters



Source: World Bank calculations based on UCDA data.

Main Challenges

The coffee wilt disease (CWD), which only affects robusta varieties, was first confirmed in Uganda in 1993 and has by now affected all 21 robusta-producing districts in Uganda. 122,400 of the total 240,000 hectares in these districts have been infected, equivalent to about 136m. robusta trees, and representing about a 51 percent cumulative infection rate.[12] There is considerable variation among districts with infection rates ranging from a low of 12 percent (Rakai) to a high of 67.2 percent (Mukono, the district accounting for 22 percent of Uganda's robusta area).

The impact of the coffee disease is enormous. UCDA estimated a loss equivalent to 61,200 tons of coffee (1.02 million bags), around 44 percent of the estimated 2005/06 output, or US$42.8 million in export revenue loss per annum at 2003/04 prices (Ush1090/kg) which is around one-quarter of annual coffee export revenues in recent years. Under different assumptions regarding production (88,240 tons) and prices (Ush1200/kg), the Uganda Coffee Traders Federation (UCTF) put the annual losses at $51 million.[13]

The only long-term solution is the development of wilt disease-resistant coffee varieties. Although some progress has been made towards that end, details are still unclear. For example, UCDA (*2003/04 Annual Report*, p. 37) reports that: "Steady progress has been made in the development of robusta coffee lines resistant to the disease. Sustained screening programme has to date identified 593 coffee wilt resistant robusta coffee clones. These were identified among seedlings of germplasm collection at Coffee Research Institute (CORI) and have been planted in mother gardens. 143 out of the 593 have been planted out in-station in a CWD infected garden for field evaluation." Yet, it is unclear how many of these varieties will withstand the disease in infected areas and also be commercially viable (that is, pass the consumer taste test). Furthermore, even under the assumption of complete success, producing plantlets at large quantities and finding effective ways to distribute them to coffee growers will be a monumental task, especially in view of the limitations of the existing replanting program, which has been one of the reasons for the poor containment of the coffee wilt disease.

[12] UCDA (2003), p.29.

[13] The wilt disease along with reduced robusta volumes had been identified as the two key problems of Uganda's coffee industry by Ponte (2002), p. 260: "Uganda's falling production and changing roaster's blends may marginalize it in the future *vis-à-vis* cheaper origins, unless coffee wilt disease is tackled."

The coffee replanting program was introduced in 1992/93 with the objective of enhancing the productivity of the sector by replacing old robusta coffee trees with newer, high yielding varieties (free of charge) at the rate of 5 percent per annum, and to expand the area under arabica. During the last 12 years, a total of 135 million trees have been distributed—101 million robusta and 34 million arabica. A further objective was added in 2002/03, which was to help contain the coffee wilt disease. The program has been administered by UCDA, which contracted out the production and delivery of seedlings to numerous nurseries (about 900).

The program has not been successful—in particular, only 50 to 60 percent of the seedlings given to farmers survived. The main reasons for the low survival rate include poor growing conditions at the nurseries (hence low quality of plantlets) and distribution during the wrong season. In turn this could be attributed to delays in reimbursing nursery operators; on some occasions nurseries have not been paid at all and they have abandoned their operations. The most recent estimate is that UCDA owes nurseries some Ush5-7bn. (equivalent to US$2.7-3.8m.). Further, it appears that the new trees are affected by the wilt disease at the same rate as the old trees, which may explain why despite the fact that 101m. robusta trees have been distributed under the replanting program, an estimated 136m. robusta trees have been destroyed by the wilt disease.

The 2005 UCDA/MAAIF Monitoring and Evaluation Report argued that poor seedling production at the nurseries may have contributed to the incidence of the wilt disease. It also argued that only coffee specific programs such as the former Farming System Support Programme and Coffee Rehabilitation Programme should be encouraged to solve the problems of the coffee industry since it is difficult for other current programs such as the Area Based Agricultural Modernization Programme and National Agricultural Advisory Services (NAADS) to address coffee problems due to their divergent objectives. Most of NAADS's activities with respect to coffee appeared to be ineffective according to the earlier evaluation (UCDA/MAAIF 2004, p. 11) because they only consisted on giving seminars, something that coffee growers did not really need.

In its *2004/05 Annual Report*, UCTF noted that (p. 21) "According to UCDA notice of May 2004 … government will no longer buy coffee seedlings. UCDA has advised the nursery operators that the seedlings should be planted on demand basis." Given that free distribution of trees was a key element of the program, one may argue that, in effect, the replanting program was terminated in May 2004.

An important issue here is that since the coffee replanting program is understood to be ongoing, farmers do not have the incentive to purchase seedlings and instead await the free seedlings.[14] This is probably the worst possible scenario. Therefore, either GOU should formally announce the termination of the program, or it needs to restructure the current program that corrects its many drawbacks including:

- ensuring that only good quality seedlings are distributed (that is, seedlings that are raised from good quality seeds under good conditions in nurseries)
- distributing seedlings at the right time of the year
- ensuring farmers know what to do when they get the seedlings so the latter can become well-established
- ensuring nursery operators are paid adequately and on time so they continue to grow seedlings for distribution in future seasons.

[14] There is anecdotal evidence that farmers are willing to pay for good quality seedlings although some may be constrained by financing.

Market and Product Diversification

Various strategies have been proposed to diversify markets and products for coffee in Uganda. Such strategies do not seem to be the priority at the moment in light of the large declines in coffee production due to the coffee wilt disease and the unsuccessful coffee replanting program. The expected production of 2.3m bags of coffee in 2005/06 is well below the peak of 4.2m. bags reached in 1995 and 1996, as well as the level (4.5m. bags) it can sell to its existing European partners without suffering any declines in the price premium it fetches.

The proposal to increase the proportion of specialty coffee does not seem like a priority in light of the current decline in coffee production.[15] During the last 9 years, only 0.2 percent of Ugandan coffee output went through specialty coffee marketing channels, which is very low compared to the world average of 6-8 percent. This is not surprising since Uganda already produces the world's best robusta which is a niche market in itself, in turn explaining why the industry has chosen to stay largely within the existing marketing channels rather than pursuing new ones. Moreover, the competition in specialty markets is more intense than traditional markets since virtually all coffee producers are attempting to capture part of this (likely saturated) market, as reflected in the considerable decline in specialty premia in the last few years.

Efforts to expand activities such as roasting and instant coffee making may add some income mainly through employment generation but it is unlikely to have any effect on the welfare of the coffee growers. The main reasons are, among others: (i) roasters and instant coffee producers will pay the same (world) price for their green beans as exporters; (ii) most roasted coffee requires blends with types of coffee not necessarily produced in Uganda; (iii) roasted coffee must be consumed relatively quickly, a major impediment for a country where it takes green coffee as much as 4 weeks to reach the port of Mombasa; (iv) instant coffee exports to the region (the most likely destination) may face stiff competition from neighboring countries, most of which are coffee producers with similar ambitions and marketing strategies.

The efficacy of promotional activities designed to increase consumption of Uganda's coffee in emerging markets such as China and Middle Eastern countries is also questionable. First, any increase in coffee consumption through direct marketing in these markets is likely to be costly and small. Second, higher consumption of Ugandan coffee in, say, China, most likely implies lower exports of Ugandan coffee to Europe. In effect, therefore, coffee promotion causes trade diversion rather than income generation. Such a promotional strategy would only be effective in countering potential negative impact of Uganda's coffee on prices in existing markets when Uganda has exceeded its potential in these markets which is far from the case presently.

1.2 TEA[16]

Tea exports amounted to US$33m. in 2004/05, making it the third largest traditional export after coffee. Around 37,000 tons of tea were produced and 35,000 tons of made tea exported in 2004. 70 percent of the production was accounted for by 5 large private estates,[17] while smallholder production accounted for 27 percent, and 20 small private estates accounted for the remainder. Tea production is more labor-intensive than most export crops, requiring about 2.5 person years per hectare. With an estimated 16,300 hectares of tea under production (8,500 ha in large estates and 7,800 ha in smallholder cultivation), total

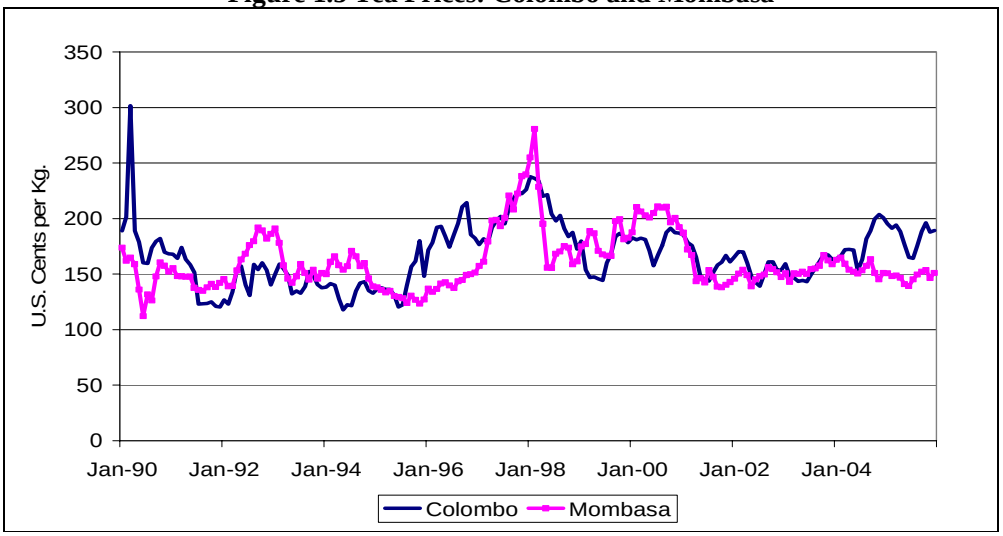
[15] Specialty coffee in the global coffee market includes gourmet or specialty, organic, fair trade, eco-friendly (shade-grown or bird-friendly), traceable, and other certified coffees.
[16] The discussion in this section is drawn from Mitchell (2006).
[17] Findlay, Toro, Mityana, Rwenzori, Madhvani, and Mehta.

employment in the tea sub-sector is estimated to be around 40,750 people.[18] Tea is well-suited to Uganda's soils and climatic conditions; it has no serious diseases and requires little herbicides or pesticides.

90 percent of Ugandan tea is exported through the Mombasa auction, 3 percent sold directly to foreign buyers, and the remainder consumed locally. The price of tea has remained relatively stable between US$1.50-US$$2.00 per kilogram at the Mombassa auction since 1990 except for the sharp increase in 1997 and 1998 when drought reduced production in the region (Figure 1.5). Prices in early 2006 started to rise again in response to drought in the region and are expected to remain strong in 2006 and 2007 before declining to historical trends.

Global import demand for tea has been relatively strong for the past several years because of high petroleum prices which have boosted tea imports of petroleum exporting countries such as Russia, Pakistan and many of the Middle East oil exporters (Table 1.2). Despite this, tea prices have been relatively stable as production and exports have increased enough to meet this demand. Kenya, the largest exporter, has steadily increased production and exports as has Sri Lanka, the second largest exporter. With steady increases in production and exports by these major producers and the emergence of Vietnam as a larger exporter, there is concern that demand growth will not be sufficient to absorb these increases and prices could decline significantly if petroleum prices decline.

Figure 1.5 Tea Prices: Colombo and Mombasa

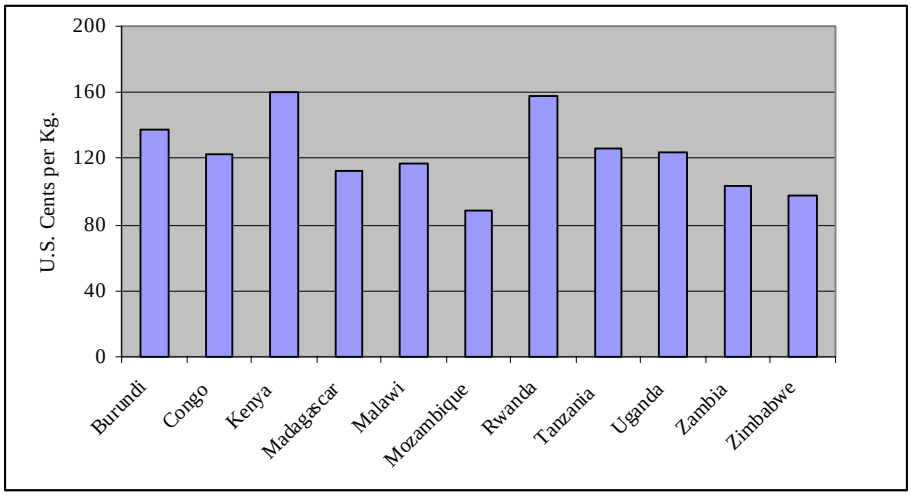


Uganda produces a medium quality tea that is primarily used in blends with premium quality teas, such as those from Kenya. Quality is comparable to teas from Tanzania. The price discount of Ugandan tea to Kenyan tea at the Mombassa auction, where 90 percent of the Ugandan tea is sold, has declined slightly in recent years—from 24.8 percent during 1994-97 to 22.5 percent during 2001-05.[19] Even at current discounts, Ugandan tea compared favorably with most of the neighboring countries (Figure 1.6).

[18] GOU (2001a).

[19] It has been suggested that the discount may be larger than justified by quality difference (Munabi, 2005), which could have been because low exports of Ugandan tea during the 1980s and early 1990s had discouraged buyers from regularly including Ugandan tea in their blends. If this is the case, then the price discount should be reduced over time as volumes of export increase and buyers become more familiar with the tea and are more willing to include it in their blends.

Figure 1.6 Average Mombasa Tea Auction Prices, 2001-05



Source: International Tea Committee Ltd., Monthly Statistical Summary, various issues.

Table 1.2 Tea production, exports and imports by major producers and traders, 2001-04

TEA									
	2001	**2002**	**2003**	**2004**		**2001**	**2002**	**2003**	**2004**
PRODUCTION (000 tons)					**EXPORTS /a (000 t**				
India	854	826	857	820	Sri Lanka /b	288	286	292	300
China /a	702	745	770	790	Kenya	258	266	269	334
Sri Lanka	296	311	303	308	China	250	252	260	280
Kenya	295	287	294	325	India /b	180	197	165	175
Indonesia	173	173	168	170	Indonesia /b	100	100	90	100
Turkey	143	142	127	130	Argentina	57	57	58	60
Japan	90	84	87	87	Vietnam	68	75	52	90
Vietnam	80	84	78	100	Malawi	38	39	40	42
Bangladesh	57	53	57		**World**	**1,389**	**1,423**	**1,379**	**1,379**
Argentina	59	58	56		**NET IMPORTS /c (000 tons)**				
Iran, Islam. R.	59	53	50		Russian Fed.	154	163	154	170
Malawi	37	39	42		UK	137	137	125	125
Uganda	33	34	36		Pakistan	107	98	118	120
Tanzania	25	28	29		US	97	93	94	98
Zimbabwe	22	23	22		Egypt	56	79	53	
Taiwan, China	20	20	21		Other CIS	57	55	50	
Rwanda	18	18	19		Japan	60	51	47	
South Africa	11	12	12		Morroco	38	42	47	
Nepal	8	8	8		Afganistan	31	35	45	
Burundi	9	7	8		Iran, Islam. R.	42	38	33	
PNG	6	6	6		Iraq	62	81	19	
World	**3,041**	**3,056**	**3,097**	**3,110**	**World**	**1,323**	**1,359**	**1,282**	**1,300**

/a Total black and green teas. /b Includes teas imported and re-exported. /c Imports adusted for re-exports.

Source: International Tea Committee.

Sector Developments

The tea industry in Uganda has recovered from the devastation of Idi Amin's rule from 1971 to 1979 and most estates nationalized during that period have been returned to their owners. Marketing was liberalized in the early 1990s and 6 Government owned factories were privatized in 1994. Smallholder tea rehabilitation and development programs assisted smallholders to rehabilitate their tea gardens and factories prior to the sale of 4 smallholder factories to farmers in 1995. Policy reforms including the removal of the Uganda Tea Authority monopoly on exports, valuation of export proceeds at the market exchange rate, liberalization of export marketing, and permission for foreign exchange retention accounts have stimulated production to record highs.

Main Challenges

Two important issues need to be addressed for the tea industry to consolidate its gains and to continue to grow. These issues revolve primarily around competitiveness and the proper role for Government. As mentioned, over the longer-term it seems likely that international tea prices will decline as production and exports by major producers (Kenya and Sri Lanka) and emerging exporters (Vietnam) grow faster than import demand. This will require Uganda to become more competitive if it is to continue expanding production and exports.

Research and planting materials. The Government has largely been absent from the tea sector since the total collapse of the 1980s and no research has been done since 1978 when the Tea Research Institute of East Africa collapsed. Restarting tea research is a high priority for the competitiveness of the sector, and especially for the smallholders who have no alternative access to improved varieties. A closely related issue is how to multiply and disseminate improved planting materials. The efforts of GOU to disseminate high yielding clonal varieties obtained from Kenya and distributed under the SEP in 2001 met with partial success, but many of the participating nurseries were not paid for their planting materials and will not be willing to participate in another Government program. A more sustainable approach to both research and dissemination of improved planting materials is needed and the best approach appears to be to rely on the industry to fund and direct the program as was done successfully in Tanzania (Box 1.1). The research station at Rwebituba in western Uganda is reported to be in good repair and ready to begin tea research and would be an excellent facility to center the research and planting materials dissemination activities. A ccess on tea sales could be used to fund such these activities, and the Uganda Tea Association, which represents 95 percent of the producers, has expressed a willingness to fund tea research if it is done under industry control. GOU recommended[20] using a combination of Government and Donor monies to kick-start tea research and this would be an excellent place to begin, but the industry should direct the research and oversee expenditures of any funds collected by a cess on tea.

The proper role for the Government. Finding the proper role for the Government in the tea sector is a high priority. The Government's role was substantially reduced by the marketing liberalization and privatization of factories in the early 1990s and the private-sector led industry flourished. Now the Government has suggested a larger role for itself with its Draft National Tea Development Policy. This larger role is not consistent with a private sector-led industry and would be a partial return to policies of the past. The Government should have regulatory authority when issues of health, environment, and safety are concerned, but not on the normal operations and business decisions. The Draft Policy calls for the development of an information database for the industry and this would be an appropriate role for the Government, but the operation of the industry should remain within the industry.

[20] GOU (2001b).

Box 1.1 Tea Research Institute of Tanzania – a successful model

Tea research in Tanzania was funded by the government through the Ministry of Agriculture and Cooperatives until 1996. By the mid-1980s the research program was in a state of collapse. The Tea Research Steering Committee formed in 1988 to arrest the decline in research recommended creation of an independent research organization funded primarily through industry levies. The Tea Research Institute of Tanzania (TRIT) was established in July 1996 as a nonprofit organization to undertake tea research. It is managed by a board with broad representation from estates, smallholders, and the government. As a nonstatutory body the Tea Research Institute can use merit and performance criteria rather than seniority to determine the salaries and promotion paths of its researchers. Dissemination of research findings to estates and small tea growers is managed by the institute's Technology Transfer Unit.

The research institute began operations in 1998 after taking over one government and one industry research station and signing a contract with Silsoe College of the United Kingdom. The institute is funded by the industry—it receives 1.5 percentage points levy on the net sale value of made tea. Although smallholders contribute just one-tenth of the tea levy (because of their small share in total output), one third of the institute's budget is earmarked for activities to benefit them. TRIT has emerged as the model of successful commodity research funded and directed by the industry.

Some of the Draft policy proposals seem to infringe on private sector management and decision-making such as encouraging labor-based technology to create employment, and encouraging farmers using fertilizers and chemicals to apply them according to regulations governing their use, and ensuring tea factories continue to establish ample woodlots for tea processing. Other proposals suggest a larger role for the public sector than is appropriate for a liberalized sector. For example, the Draft Policy proposes that "Both government and the private sector shall support tea research activities" which could be interpreted to mean that the private sector will be required to support tea research whether they chose to or not. Another area where the role of the Government and private sector may come into conflict is on the institutional framework to oversee and coordinate the tea industry. The Draft Policy states that "An institutional framework, clearly defining the roles of stakeholders involved in the tea industry is a pre-requisite for the successful implementation of the tea-sub-sector programmes", and that "The implementation of the Tea Development Policy shall be the responsibility of both public and private sectors." If approved, the Draft Policy would give the Government new authority over the industry and would partially reverse the liberalization which has allowed the industry to recover from the lows of the 1980s.

Infrastructure and the business environment. The Government is responsible for providing infrastructure and an enabling business environment. These are especially important to the tea industry, because it depends on good rural roads to quickly transport green leaf tea to the factory for processing and reliable and low cost power to operate the factories. Fuel and factory supplies are also important and the current situation with respect to power in the country adversely affects the industry. The Government should also allow duty-free access to inputs used in the production of tea exports as is international practice.

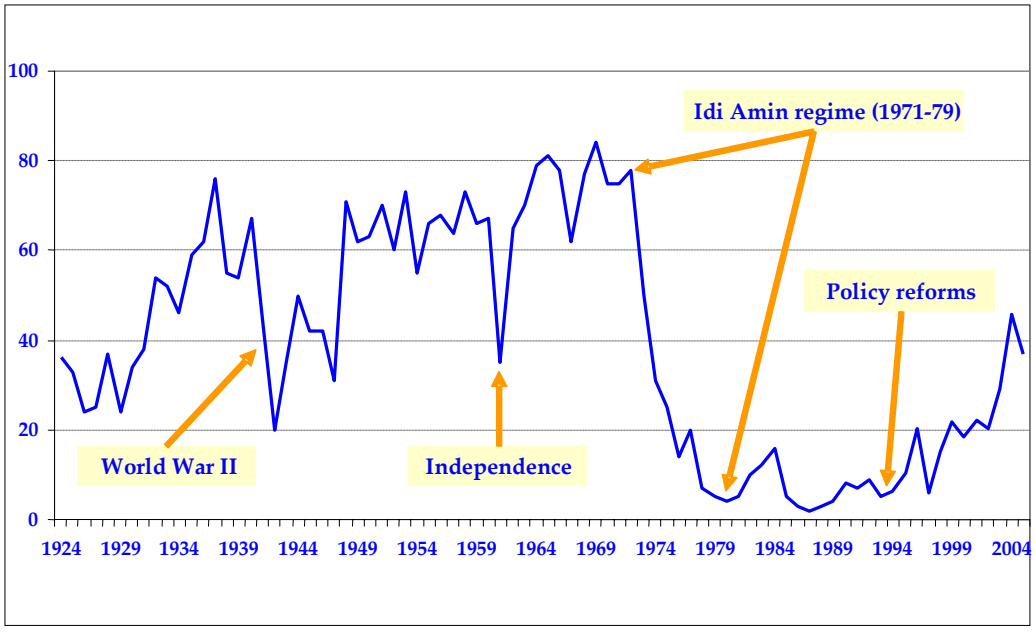
1.3 COTTON[21]

Cotton is Uganda's second largest export crop after coffee, amounting to US$41m. in 2004/05, the highest export level since the early 1990s, and making cotton the fourth largest single export item (after fish, gold and coffee). The industry consists of mostly smallholders with an average farm size of less than 0.5 hectares and is the main source of income for some 250,000 poor households. Cotton in Uganda is a rain-fed crop with minimal use of purchased inputs.

Sector Developments

Introduced in the early 20th century, cotton quickly became Uganda's most important cash crop, reaching 60,000 tons during the early 1930s and sustaining that level of production for 4 decades (worth US$300m. in today's terms). The political and economic turmoil during the 1970s drastically reduced output, which fell from 78,000 tons to 14,000 tons in just 4 years (1972-76), reaching a record low of 2000 tons in 1987. In effect, SSA's largest cotton exporter ended up producing no cotton at all (Figure 1.7).

Figure 1.7 Uganda's Cotton Production (thousand tons), 1924-2005



Source: ICAC from 1924 to 1993 and Cotton Development Organization from 1994 to 2005.

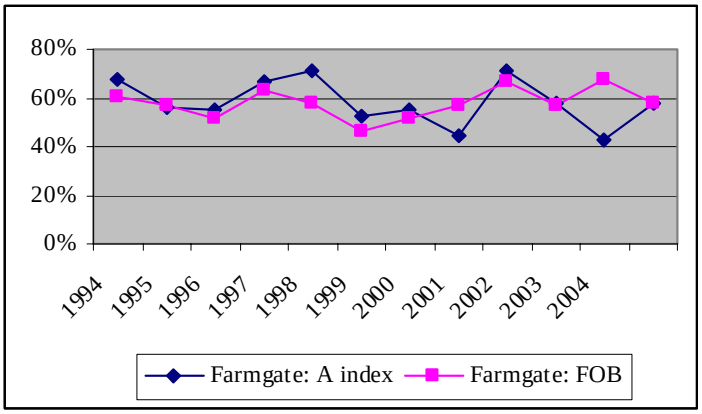
Reforms of the sector were initiated in the mid-1980s and deepened in the early 1990s, and included liberalization of ginning and marketing of cotton and cotton inputs; enhancing support for research, extension and seed multiplication; and transferring gins to creditworthy operators. Cotton-related activities such as transportation, ginning operations, input provision, and exporting are now in the hands of private entrepreneurs.

By most accounts, the policy reforms have had the desired impact. The reforms, coupled with high prices in the mid-1990s, led to considerable supply response with output reaching 20,000 tons in 1996/97. Most of the ginneries went back to operation (although, with a few exceptions, most are operating at below full operational capacity). In addition to receiving payments promptly, producers received a higher share of export prices. Prices received by

[21] The discussion in this section is drawn from Baffes (2006b).

producers have been fluctuating around 60 percent of world prices (Figure 1.8) which, although lower than expected, is due to the nature of the sector's cost structure in particular poor transportation infrastructure (poor rural roads plus the fact that cotton production is quite dispersed), low level of production and the related ginning overcapacity. It also reflects the fact that in most seasons, cotton growers have not been charged for seeds and chemicals (see discussion later).

Figure 1.8 Share of export prices received by cotton growers, 1994-2004



Source: DTIS team calculation based on data from Cotton Development Organization and from *Cotton Outlook*.
Note: A index is the average of the 5 lowest quotations of 18 styles of cotton from 16 countries (see Baffes, 2006b for details).

Cotton research received high priority during the reform process, and the Cotton Research Institute in Soroti has performed well, having introduced one cotton variety for the entire country, frequently developing new varieties, and having established an effective seed multiplication mechanism. As one industry representative put it "cotton research in Uganda is far ahead of what growers and ginners can use."[22]

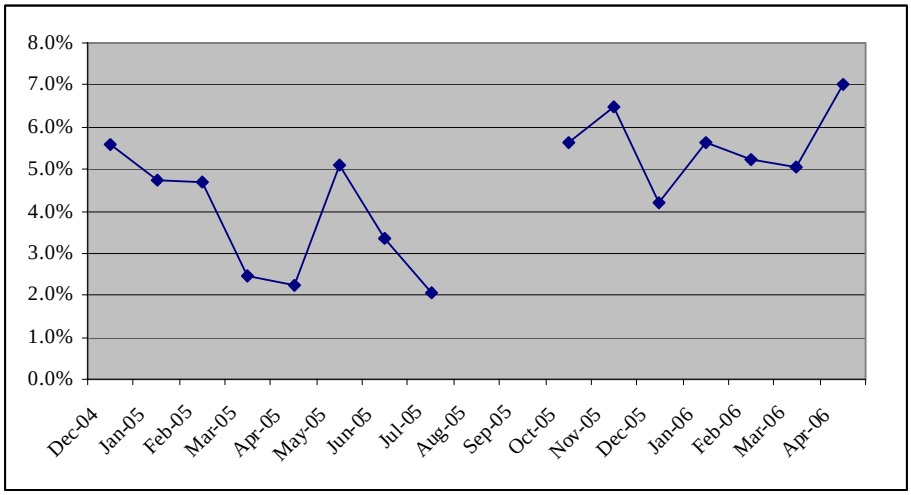
Cotton marketing and trade work well. Most ginners are exporters, so there are no post-ginnery transaction inefficiencies. Growers who are either located close to ginning operations or have access to their own transportation means bring their cotton seed to the ginnery and receive the full price. Others sell their seed cotton to independent middlemen or agents working on behalf of the ginneries at a lower price which reflects transportation costs (typically about Ush50/kg less).

The evidence shows that there has not been a deterioration in the quality of cotton,[23] which has often been considered to be one of the negative consequences of liberalization.[24] First, the ginning out-turn ratio has increased considerably, from 32 percent during the mid-1990s to 36 percent in 2004/05, an outcome that is typically associated with increased cotton quality.[25] Second, during the last two seasons (the only period during which Ugandan cotton price data is available), Uganda's premium has not shown any downward trend. Between December 2004 and March 2006, the premium between $0.02/kg and $0.08/kg with an

[22] Interview conducted in the context of the DTIS mission, September 2005.
[23] This is in contrast to what has been reported in some papers, for example SCOPE (2005b), Coulter and Laker-Ojok (2005), FOODNET (2002), and COMPETE (2001).
[24] See Baffes (2006b), footnote 13, for a discussion of the literature on the topic.
[25] Sabune (2005), p. 13 also notes: "The government established a Ginning Training School in 1998 with the aim of training ginnery technicians. As a result, the quality of ginning had improved, thus contributing to the high quality of Ugandan lint."

average of $0.05/kg, or equivalently between 2 and 6.5 percent (Figure 1.9).[26] Third, as noted earlier, Uganda has one cotton variety while new varieties are being developed on a frequent basis, two factors consistent with quality increase rather than quality deterioration.[27] Finally, increasing quality control of Ugandan cotton was one of the priorities of the Cotton Development Organization (CDO), which established a ginning school to train technicians to staff ginnery operations. Reflecting the efforts of CDO, Uganda has gained membership to the Liverpool Cotton Association and the Bremen Cotton Exchange.

Figure 1.9 Cotton Price: Uganda's premium over A Index



Source: *Cotton Outlook*.
Note: Uganda's quotations were not made in August and September 2005.

There were initial problems associated with the provision of inputs following liberalization of sector which, after some trial and error, Uganda seems to have now successfully solved. Prior to the collapse of the sub-sector, cooperatives provided seeds and chemicals to farmers and deducted the price of seed cotton from the price paid to farmers. The system worked because the Lint Board had a monopoly so there was no issue of side selling. This process also instituted the "culture of free inputs." Following liberalization, the government provided free seeds to farmers but chemicals had to be purchased. Due to the high cost of financing, only a few growers were able to use chemicals. To remedy this situation, a number of input credit mechanisms were introduced. However, to various degrees, none of them worked[28] until the introduction of zoning in 2003. The country is divided into 11 cotton zones, with each zone consisting of 2-3 ginneries, one of which is designated as the lead ginner. While cotton can be sold freely within zones, it cannot be sold between zones. The ginners provide free seeds and chemicals to lead farmers, and train a number of lead farmers in a demonstration plot close to the ginnery. In return, the lead farmers train about 20-30 other farmers each. The "non-lead" farmers get free seeds and chemicals at below market prices from the ginners. The fact that selling cotton across zones is not allowed ensures that full credit recovery takes place. The practice of demonstration plots was further expanded under APEP (USAID-supported).

[26] Uganda's cotton fetches a premium with respect to the A index (the international price of cotton) because it is a naturally longer staple cotton than those included in the A index, and because roller gins are used for ginning which, although less efficient, produce higher quality (longer staple) cotton.
[27] On a related issue, it is often argued that Ugandan cotton (as well as cotton from other African countries) receives a premium because it is hand-picked. However, one should note that almost three quarters of world's cotton is hand-picked.
[28] See Baffes (2006b) for details.

Responding partly to these changes and partly to the post-2002 price recovery, considerable supply response took place. In 2003/04, cotton production reached almost 30,000 tons while it exceeded 45,000 in the following season. The government passed the Zoning Statutory Instrument in May 2005 which made it mandatory for ginners to support their farmers within their zones.[29] Each ginner must come up with an initial capital to finance inputs and extension services (this is a barrier to entry in the ginning industry). At cotton delivery time, farmers and traders can sell their cotton to any ginnery within the zone. Each ginner, who is assigned a quota proportional to its initial capital for input provision and extension services, can only buy cotton beyond the quota after the quotas of all other ginners have been fulfilled. An international inspection company hired by ginners has representatives in each ginnery that monitors all transactions and enforces the quota mechanism. Industry representatives believe that the system is sustainable. It appears that the key elements that make the system work are the system of quotas and that farmers must pay for, at least, part of the input supply kit.

Issues

The main issue that the cotton sector is facing is low productivity and low profitability. In addition, there are also problems with respect to the current system of announcing indicative prices.

Productivity and profitability

Despite the recovery in output and its acceleration in recent years, there is a sense that the sector lags behind its full potential. Consider, for example that if the 1930-70 production trend continued, Uganda's cotton output would have exceeded 110,000 tons today. Alternatively, if Uganda's current share in the global cotton market was similar to that of the 1940s and 1950s, its cotton output should have been closer to 150,000 tons. Cotton production during the last 5 years, however, averaged a little over 30,000 tons, about one fourth or one fifth of what the 'full potential' could have been, prompting numerous reports to argue that cotton production in Uganda could (and should) increase substantially.[30]

However, cotton's potential may not be that high given the sizeable empirical evidence of its low profitability relative to other crops. One study argued that Ugandan farmers grow cotton despite its questionable profitability and attributed it to the timing of crop sales, which coincide with Christmas and new school year expenditures.[31] Another paper reported that more than half of cotton growers surveyed incurred negative returns.[32] An earlier study by the government reported that returns to family labor for cotton are lower relative to competing crops.[33] A similar profitability analysis for the 1994-97 period found that hand-hoe cotton without spray (along with four other commodities) were not competitive—arabica coffee was found to be the most competitive crop.[34]

The low profitability of cotton is due, in part, to low yields of cotton. Between 1950 and 1970, the sector experienced a 20 percent decline in yields (which meant that the increase in

[29] However, the increase in production attracted free riders in the system. Two "politically-connected" ginners entered the market although they had not contributed to the fund that is supposed to finance the inputs and extension services. The ginners claimed that their permits had been issued prior to the enactment of the law.
[30] For example Foodnet (2002), SCOPE (2005b), CDO (2001), Sabune (2005).
[31] Gordon (2000, p. 11). Tulip and Ton (2002, p. 31) also noted that "… the cultural desire of Ugandan farmers to have sufficient cash for Christmas celebrations." In reality, this decision reflects the high cost of credit. Although it appears that farmers are making negative profits, this may not be necessarily the case if one takes into account the high cost of credit.
[32] Lundæk (2002).
[33] Government of Uganda (1992), p. 32.
[34] Rosetti (1998), p. 39.

production at that time came from area increase, not productivity gains). At the same time, world cotton yields increased 1.8 percent per annum during this period. Uganda's cotton yields were 40 percent of world's yields in the early 1950s, dropping even lower to only 15 percent by the early 1970s (Figure 1.10).

Two reasons appear to be responsible for the decline in yields. First is the shift of cotton cultivation to less productive areas. Cotton was initially concentrated in central Uganda, where half of Uganda's cotton was produced until World War II, after which the higher profitability commodities—robusta coffee and bananas—replaced cotton in that region. Cotton then expanded around the shores of Lake Kyoka, and the eastern and northern regions.[35] Second is limited use of fertilizer, which may have contributed to soil depletion.

Figure 1.10 Cotton Yields (5-year moving average, kg/hectare)

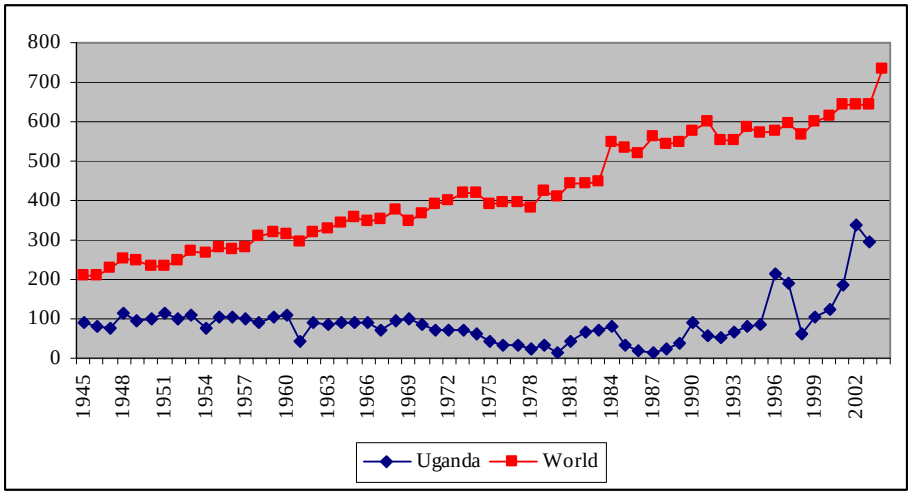
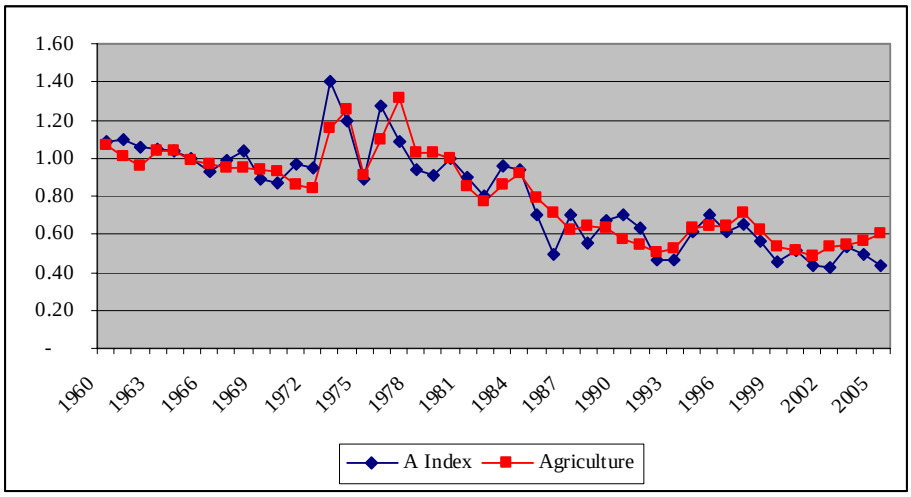


Figure 1.11 Real Price Indices, 1960-2005 (1980=1)



Source: World Bank, Commodity Price Data.
Note: Agriculture Index is for 28 commodities. Both price indices are deflated by the MUV.

Finally, it does not seem that the poor performance of cotton in Uganda is due to world price conditions. Even with cotton subsidies in developed countries (especially in the U.S. and also

[35] Bibagambah (1996).

in the EU) which had depressed world prices by 10-15 percent over the last decade,[36] the trend of real cotton prices has been broadly in line with the trends for other agricultural commodities worldwide (Figure 1.11).

Indicative Prices

At the start of each marketing season (typically end of November or beginning of December), CDO in consultation with all industry stakeholders, including the Uganda Cotton Exporters Association (UGCEA), announces indicative prices, the objective of which is to provide information to smallholders to make their marketing decisions.

However, for 4 recent seasons (1999/00 to 2002/03)[37] farmgate prices were only close to indicative prices at the beginning of the season (that is, in December and January), but deviate (sometimes substantially) from indicative prices later in the season, when they appear to be dictated by market forces, moving broadly in line with the world price of cotton (Table 1.3). It is therefore not clear what the relevance of indicative prices are, since if they were to serve the purpose of disseminating information on price trends, the process of announcing indicative prices should continue throughout the entire cotton season, and not be confined only to the beginning of the season.

Table 1.3 Average Seed Cotton Prices: Indicative, Farmgate, and A Index (Ush/kg)

	S/Eastern	*N/Eastern*	*Northern*	*West Nile*	*Central*	*Western*	*A Index*
1999/2000 [indicative = 230 ; farmgate = 300; November A Index = 521; indicative/A Index = 44%]							
December	230	230	230	210	230	—	496
January	230	240	230	220	230	—	545
February	260	260	235	220	240	260	610
March	230	310	240	240	300	330	648
April	—	—	245	290	310	340	669
2000/01 [indicative = 320; farmgate = 420; November A Index = 899; indicative/A Index = 36%]							
December	360	380	355	400	400	—	892
January	285	380	385	387	400	385	890
February	365	370	350	375	370	345	799
March	365	370	350	375	350	345	725
April	365	—	350	350	315	345	691
May	365	—	—	350	—	345	676
2001/02 [indicative = 255; farmgate = 270; December A Index = 579; indicative/A Index = 44%]							
January	257	253	255	255	255	258	594
February	262	255	275	255	250	263	582
March	278	285	257	230	250	265	586
April	273	—	—	—	—	—	580
2002/03 [indicative = 350; farmgate = 500; December A Index = 745; indicative/A Index = 47%]							
January	365	390	360	375	415	—	825
February	465	470	450	410	420	515	859
March	585	550	610	460	440	600	928
April	600	660	325	535	455	490	936

Sources: CDO (prices); IMF (exchange rate); and *Cotton Outlook* (A Index).
Notes: Farmgate prices from CDO. The A Index has been converted from US$ to Ush by using the market exchange rate and the CDO's ginning out-turn ratio.

At the same time, if indicative prices are meant to be guarantee prices (which they appear to be de-facto, since with a few exceptions, indicative prices were below the monthly average farmgate prices in all the cotton growing regions during those 4 seasons), then there could be

[36] Cotton subsidies amount to a total of US4-5bn. a year, see Baffes (2005). The effect of such subsidies on world cotton prices is debatable, but 10-15 percent would be a reasonable guess.
[37] Data is from CDO Annual Reports, for which earlier issues are not available to the DTIS team.

severe adverse effects on ginners should world prices fall dramatically at cotton delivery time, unless ginners hedge, which they do not currently.

The Way Forward

The key to increase the sector's profitability is to raise yields, for which introduction of genetically modified cotton would be necessary. While more intensive use of fertilizers would also raise yields, the impact on profitability is not as clear, for which more analysis would be required.[38] Other measures that have been proposed, in particular organic cotton and value addition in cotton, are less important with respect to benefits to farmers. The issue of indicative prices also need to be addressed, given the drawbacks discussed.

Genetically Modified (GM) Cotton

Genetically modified seed technology has been the most important technological advancement in agriculture after the Green Revolution, and cotton has experienced one of the highest adoption rates of such technology compared to other crops. The premium paid for GM seeds (plants from such seeds are resistant to pests, insects, or weeds) is offset somewhat by the reduced need for pesticide application. Yields are also likely to be higher, especially in developing countries where growers spray much less than what is required. China experienced a yield increase of 19 percent after switching to GM cotton, while India experienced a yield increase of 80 percent.[39] Research has shown that, on balance, GM cotton users are much better off compared to users of conventional cotton.[40] A recent study argued that the benefits from the full adoption of GM cotton by African cotton producing countries may be even greater than the benefits of the removal of all cotton subsidies by the US and the EU.[41]

More than one quarter of the area allocated to global cotton is currently under genetically modified (GM) varieties, accounting for almost 40 percent of world production. GM cotton in the U.S.—where it was first introduced in 1996—currently accounts for about 80 percent of the area allocated to cotton. Other major GM cotton producers are Argentina (70 percent of cotton area), Australia (80 percent), China (60 percent), Colombia (35 percent), India (10 percent), Mexico (40 percent), and South Africa (90 percent). Countries that are at a trial stage include Brazil, Burkina Faso (the only SSA country), Israel, Pakistan, and Turkey. Zimbabwe had initiated trials but progress has been overtaken by political developments.[42]

Uganda is proceeding cautiously with respect to the adoption of GM cotton "as long as there were uncertainties concerning the pros and cons of this technology."[43] A step taken recently in this direction is a regional workshop in May 2005 (USAID-sponsored) during which it was decided that companies will be invited to examine the types of GM cotton-related packages that can be introduced into existing Ugandan cotton varieties. Since most cotton producing countries have already embraced the technology, those that have not are in a disadvantageous position. Furthermore, GM cotton does not face the negative consumers' reaction that GM food crops face.[44] Therefore, Uganda should consider moving quickly into using this

[38] The World Bank will be undertaking a broader analysis of fertilizer use and profitability for agriculture separately.

[39] In developing countries there may also be health benefits because small growers spray with hand-held devises and, thus, any reduction in spraying would also imply a reduced risk of poisoning.

[40] An extensive discussion and literature review on GM cotton can be found in FAO (2004).

[41] Anderson et al (2006).

[42] Cotton Outlook (2005).

[43] Sabune (2005), p. 15.

[44] In terms of consumer's reaction, GM and organic cotton may be identified as mirror images of each other: to the extent that consumers do not see health benefits in organic cotton, they do not see health problems in GM cotton.

technology, particularly since it would take reportedly about 3 years for locally developed varieties to be converted into GM varieties and, maybe, even more time for the technology to be fully disseminated.[45] Lack of policy on GM cotton has been identified by several reports as a factor constraining the sector's growth.[46] The Cotton Research Institute has repeatedly emphasized the need to venture into this area to be abreast with other cotton producing countries.[47]

Reform of Indicative Price Announcement Practice

There are two ways in which the current practice of announcing indicative prices could be improved, depending on the objective. First, if the objective is to avoid exploitation of growers, then it should be updated frequently, such as once a month or whenever circumstances warrant it.

Alternatively, if the objective is to guarantee a minimum price to growers, then indicative prices should clearly become guarantee prices, and announced as such, in which case the ginners should hedge their exposure.

Hedging in the cotton market, however, is not as straightforward as in other commodity markets. The only liquid futures cotton contract is traded at the New York Board of Trade (NYBOT). But the NYBOT contract reflects mostly domestic US market conditions, which implies high basis risk for potential users of non-US cotton who mostly trade their cotton on the basis of the A Index. Additionally, non-US cotton traders also face exchange rate risk. One (and perhaps the only) way to overcome this problem is to use over-the-counter instruments, that is, risk management tools specifically designed for this particular case.

There have been proposals in favor of instituting a stabilization fund, preferably to be run by UCGEA.[48] However, even privately-run stabilization funds are likely to face difficulties, especially in view of the highly volatile nature of commodity prices. For example, during the seven 12-month intervals between March 1995 and March 2002, cotton prices declined six times and remained at the same level once, without experiencing any increase. Under such circumstances, any stabilization fund is likely to go bankrupt no matter how well is run.

Organic Cotton

Organic cotton has not enjoyed much success in the world market, unlike that for many other organic products, in particular food products. Global organic cotton production during 2004/05 was 25,400 tons, about 0.1 percent of world cotton production, compared with 6-8 percent of coffee that goes through special marketing channels. In the U.S., where organic cotton production was introduced in 1990/91, and where production rose from 330 tons that year to a peak of 7,425 tons in 1995/96, organic cotton production has now fallen to less than 2000 tons.

Organic cotton faces problems on both the demand and supply sides. Demand for organic cotton is not as strong as for organic food commodities because of the "distance" in the eyes of the consumer between the primary product (cotton) and the final product (cloth), and because there are many other factors affecting consumer clothing purchase decisions (brand, color, style, size, origin of cotton, care instructions, etc) than, say, coffee purchase decision. On the supply side, the fact that no chemicals are used makes production of organic cotton unprofitable because of lower yields; in Uganda's case, the low profitability situation is

[45] ICAC (2002), p. 6.
[46] See, for example, SCOPE (2005b), p. 22.
[47] Cotton Research Institute (undated), p. 11.
[48] For instance, Coulter and Laker-Ojok (2005).

further exacerbated. Moreover, because cotton undergoes substantial transformation before it becomes a final product, each stage—yarn, cloth, and garment—requires separate production lines, which adds considerably to the costs of production.

Organic cotton production has been introduced into Uganda since 1994/95 through two donor-supported projects.[49] There are now around 18,000 organic cotton farmers under these 2 projects. Organic cotton production in Uganda has increased from 20 tons in 1994/95, to an average of 200 tons per year in the late 1990s, to 740 tons in 2003/04 and 900 in 2004/05. This is equivalent to about 2 percent of total cotton output, which is a higher share than all other cotton producing countries.

However, the benefits to organic cotton growers are not proportional to the increase in production. While the price premium has fluctuated between 10 and 15 percent, only 15 percent of the certified organic cotton farmers were able to market their cotton as organic and enjoy the premium.[50] This is not surprising considering the demand side constraints that the market for organic cotton faces discussed above.

Value-addition

The need to raise domestic value addition of the cotton industry has been discussed often in Uganda,[51] based typically on three justifications: (i) Uganda is a cotton producer and should engage in the production of textiles and clothing; (ii) Uganda used to be a textile producer and therefore should get back to textile production; and (iii) the textile industry will generate income and employment.

However, the conditions under which Uganda used to be a major textile producer in the East Africa region are no longer valid. These conditions reflected distortions in the domestic industry and in the world market, in particular: government funding for the construction of textile mills; cotton being sold to the textile industry at less than world prices (at that time cotton lint was taxed which meant farmers got lower returns); and the Multi Fiber Agreement (MFA) being in force which ensured that many high cost producing textile countries were in business.

While the development of textiles and clothing industries would generate income and employment, the deciding factor should be the competitiveness of the sector. As discussed in the preceding paragraph, the Ugandan textile industry was not competitive even during the earlier years when Uganda had a textile industry, given the various distortions that were required to support it. Further, the developments in the global clothing and textile industries during the last decade or so have rendered Uganda even less competitive in this sub-sector. In particular, there has been a large shift of such industries to Asia (from Europe and the US, which used to have large clothing and textile industries) during the last decade due to: (i) low wages; (ii) these countries being major producer of synthetic fibers (and the most competitive textile industries in the world use a combination of synthetic and cotton fibers); (iii) inexpensive energy; and (iv) (perhaps most importantly) these countries have infrastructure that ensures timely delivery of end products to consuming countries. Being land-locked, Uganda is further disadvantaged by having to bear high transport costs for importing essential

[49] The Swedish International Development Agency supported both projects.
[50] Tulip and Ton (2002) noted that "….most of the registered farmers that grow organically, and are certified by foreign inspectors, are not able to sell their organic produce to the project at organic premium prices. Only some 15 percent of all organic cotton produced and certified in the project areas is in effect being bought at organic premium prices. The other 85 percent may aspire to sell their produce at an organic premium price, but in the end they have to sell their certified organic produce at conventional seed cotton prices to conventional cotton traders", p.30.
[51] See for instance, Foodnet (2002), Sabune (2005), SCOPE (2005b).

inputs (dyestuffs and chemicals for making fabrics; or fabrics themselves). It is unlikely, therefore, that Uganda can compete in the world garment and textile market.[52] Opportunities may exist in niche markets such as clothing with heritage/craftsmanship characteristics. Uganda may also be competitive in cotton yarn but would require an efficient power supply.

Last, but certainly not least, it is important to note that whether cotton is sold to domestic textile mills or exported, farmers will receive the same ex-ginnery price, which would reflect world prices. Therefore, producers are unlikely to receive higher prices simply because their cotton is consumed domestically instead of being shipped to the textile industries of the Far East.

[52] A recent study showed that even after cost saving efforts, it would cost $2.29 to produce a T-shirt (one of the simplest textile products) in Uganda compared to $1.80 in China, a 23 percent cost advantage; World Bank (2004e).

2. FISH

2.1 OVERVIEW AND STATUS

During the last decade exports of fishery products from Uganda have grown rapidly. In 2004/05, international exports of fish amounted to around US$121.2m. which, together with regional exports of an estimated US$48.4m., meant that fish exports totalled nearly US$170m., making it the single largest export item from Uganda. The export fishery sector sustains significant numbers of rural livelihoods in fishing (with employment of over 250,000) as well as in fish processing and distribution (with employment of at least 5,000).

Capture Fisheries Production

Although land-locked, Uganda is well endowed with fishery resources in lakes and rivers. Some 44,000 km^2 of the total surface area of 241,000 km^2 is covered by water. Capture fisheries are based on the five major lakes; Victoria (68,800 km^2)[53], Kyoga (2,047 km^2), Albert (5,335 km^2), Edward (2,300 km^2) and George (250 km^2), as well as many hundreds of smaller lakes. Riverine production is also important.

The Department of Fisheries Resources (DFR) has estimated the maximum yield of these water bodies as 330,000 tonnes/annum.[54] There is no reliable statistical data on fish production in Uganda, with most fish landings not being recorded and data that do exist are sporadic. Although production data is not reliable,[55] it appears that fish production has been between 200,000 to 250,000 tonnes per year (Table 2.1).

Table 2.1 Fisheries Production Estimates for Uganda 1999–2003

Year	L. Victoria		L. Kyoga		L. Albert		Others		TOTAL	
	Wt. '000 tonnes	Val. '000'000 Ugandan shilling	Wt. '000 tonnes	Val. '000'000 Ugandan shilling	Wt. '000 tonnes	Val. '000'000 Ugandan shilling	Wt. '000 tonnes	Val. '000'000 Ugandan shilling	Wt. '000 tonnes	Val. '000'000 Ugandan shilling
1999	104.20	39.60	81.12	24.50	29.06	8.30	15.13	6.70	229.51	79.10
2000	133.40	49.02	55.89	15.19	19.38	4.60	10.83	4.81	219.50	72.46
2001	131.80	42.00	58.42	19.13	19.60	4.91	10.90	6.30	220.72	72.34
2002	136.11	49.61	55.58	15.19	19.38	4.60	10.82	4.87	221.89	73.05
2003	175.22	140.00	32.89	26.00	19.46	15.80	14.13	11.20	241.70	192.70

Source: MAAIF (2004b).

Lake Victoria is by far the most productive fishery, accounting for some 75 percent of national production in 2003. There has been a notable increase in production from Lake Victoria since 2002, attributed to an increase in lake patrols preventing the illegal landing of Ugandan caught fish in Kenya.

The major species harvested are the Nile perch (*Lates niloticus*) (42 percent of production), the tilapia *Oreochromis niloticus* (35 percent), and the mukene *Rastrineobola argentea* (8 percent). Other species, including *Bagrus* anbd *Clarius* species of catfish account for the remaining production. Primary production is undertaken on a relatively small scale; most

[53] Lake Victoria is shared between three countries Tanzania 51percent, Uganda 43percent and Kenya 6percent.
[54] MAAIF, reported by Nyeko (2004).
[55] DFR produces catch estimates based on such data sets which do exist and the Lake Victoria Fisheries Management Plan (LVFMP) Implementation Project, supported by the European Development Fund (EDF), is working on upgrading of the statistical basis for fisheries management of Lake Victoria.

fishing is carried out using small, wooden vessels of length 6-8m. In 2000, only a reported 15 percent of fishing vessels were motorized. Most vessels are not equipped for safety and maintaining quality of the catch. Fishing trips are relatively short, mostly less than 24 hours.

Aquaculture production

Aquaculture production is negligible. The Fisheries Resources Research Institute (FIRRI) estimates around 5000 tonnes in 2004[56], although another source[57] suggested that production was much lower at between 44 and 176 tonnes that year, a figure which is supported by estimates of national fry input supplies and yields. Production technology typically employs extensive small scale polyculture systems (mixed tilapia and *Clarias* catfish). Most of the production is consumed domestically, although some may enter neighbouring country markets. Although aquaculture has been promoted for a number of years, current aquaculture production is limited, and provides no suitable models for development. With one or two exceptions, it is largely a subsistence activity, with some hobby investors. However, investment and production are growing, with a substantial level of interest by both small and medium sized national investors, and several major investors, two of which involve foreign expertise.

Fish supply chain

Fish are landed at around 552 "landing sites".[58] Sometimes fish is transferred from fishing vessel to collector vessel on the lake, or is traded via primary and secondary landing sites (for example first landing may be an island location, where fish is aggregated for transport to a mainland landing site). Fish buyers, who may be traders or buying agents for processors, purchase fish at landing sites. Fish for export is iced at this stage, with ice delivered by the insulated vehicles which will transport the product to the processing establishment. See Figure 2.1 for a schematic view of the fish distribution chain.

Post-harvest losses in the distribution chain have been reported to be typically 20 to 40 percent. However it is unlikely that any fish caught is discarded. Post-harvest losses will mainly relate to loss of economic value as a result of product failing to meet export quality requirements (in terms of size and quality). Fish rejected by processors always finds local or regional export markets, and is often processed artisanally by cooking or smoking/drying to minimize further spoilage during distribution. Loss of value due to poor quality is one of the pressures which contribute to excessive fishing effort, as fishers compensate by attempting to increase catch to maintain income.

Fish processing

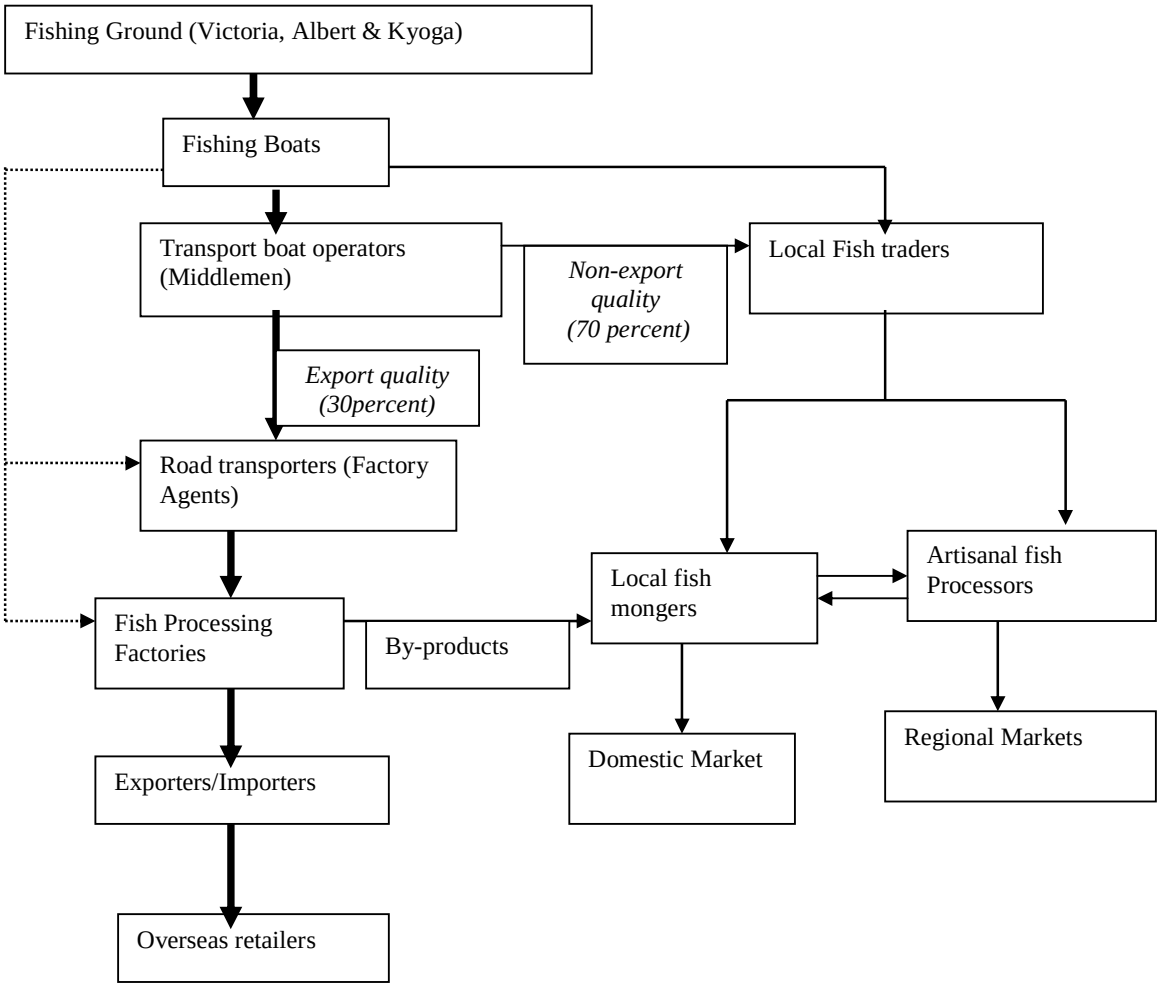
There are 17 fish processing establishments in Uganda, of which 15 are approved for export. 12 of these enterprises are members of the Uganda Fish Processors and Exporters Association (UFPEA). Export establishments are required to meet conditions set out in the Fish (Quality Assurance) Rules 1998, considered to be equivalent to those set out in EU legislation[59], and in general terms relating to hygiene and HACCP conditions. This "EU approval" procedure is crucial as it signifies compliance with modern standards of hygiene and quality control.

[56] Balirwa (2005), personal communication.
[57] Gregory (2004).
[58] The LVFM Frame survey indicated 18,162 fishing vessels landing at 552 sites in 2002.
[59] Currently requirements are set out in Council Directive 91/493/EEC on health conditions for the production and placing on the market of fishery products for human consumption. After 1 January 2006, this will be replaced by Regulation 853/2004 of 29 April 2004 laying down specific hygiene rules for food of animal origin and by Regulation 854/2004 of 29 April 2004 laying down specific rules for the organization of official controls on products of animal origin.

The installed production capacity was estimated[60] during early 2005 at 545 tonnes/day with a utilisation of only 255 tonnes per day, a 40 percent utilization rate. Start-up costs for fish processing are estimated to be a minimum of US$3m., and most enterprises are reported to have invested around US$3.5-US$6m. in total. There is reported to be a high degree of concentration of ownership of processing establishments between the three riparian countries, with some prominent beneficial owners holding equity in processing and export business in all three countries.

While fishers and processors would clearly be interested in exporting as much as possible of the national production, national policy reportedly limits exports to 60,000 tonnes (raw material equivalent) per year. There is no legal measure in place to enforce this policy, and it appears that the limit has probably been exceeded in both 2003 and 2004.

Figure 2.1 Fish distribution chain in Uganda



Source: Ikwaput Nyeko, 2004, based on NRI & IITA 2002.

[60] SCOPE (2005c).

Ugandan Fish Exports

Uganda has two types of fish export trade. The first consists mainly of nile perch caught from Lake Victoria to international markets. The second consists of a wider range of species, frequently in smoked-dried form to markets in neighbouring countries.

Formal Fish Exports

The export of fish from Lake Victoria was initially developed by Kenyan investors in the late 1980s. Initially, Kenya processed and exported nile perch caught in Tanzanian and Ugandan waters and landed or transferred by vehicle to Kenya. However, both Tanzania and Uganda rapidly prohibited the export of unprocessed fish to promote processing and exporting in these countries.

Significant development of exports from Uganda commenced in the early 1990s with private investment in fish processing factories which could process fish to the specifications and quality required for export markets. The Ugandan export trade in fishery products developed with an exclusive focus on nile perch, with almost all supplies for export derived from Lake Victoria (until now the only water body for which adequate residue monitoring systems are in place). Since 2003 tilapia from Lake Victoria has also been exported.

About 10 importers handle the bulk of Nile perch imports from East Africa, 5 of which are the main players. These are Fiorital (Italy), Caladero (Spain), Nieterlof (Holland), Anova (Holland), and Icemark (Belgium). Of these, Anova and Icemark have operations on the ground in Uganda.

The European market prefers whole fillet sizes of 200 to 500g, corresponding to whole fish in the weight range of 500 to 1250g (the smaller of which is immature). Japan, the Middle East and Hong Kong accept fillets from larger fish. Fillet yields are generally in the range of 30-35 percent of live weight, depending on the trim, but can be as high as 40 percent.

Formal fish doubled between 2000 and 2001, and levelled off at about 25,000 to 30,000 tonnes (Table 2.2). This level of exports suggests a raw material input of around 70,000 tonnes in 2003, equivalent to about 70 percent of the estimated Lake Victoria nile perch catch landed in Uganda. This suggests post harvest loss (in the context of nile perch exports, fish which does not make export quality grades) of the order of 25 to 30 percent.

The vast majority of exports (99 percent) are in the form of fillets or other fish portions, either fresh or frozen. The share of fresh chilled products exported had risen from 28 percent in 2000 to 78 percent in 2004, reflecting the success of Uganda's processors in meeting demand for products with higher added value (since fresh chilled fish exported by air obtains a higher price than frozen fish).

Uganda is the only one of the three riparian countries which has diversified the species of fish which exported from Lake Victoria (although both Kenya and Tanzania have developed exports of marine fishery products such as octopus and in the case of Kenya, frozen cooked tuna loins). Uganda's secondary exported fishery product, tilapia, is also harvested from capture fisheries, principally Lake Victoria. The product is exported mainly in fresh chilled form (both gilled and gutted, and in fillet form). There is no disaggregated export data by species, but anecdotal reports indicate that the proportion of tilapia accounted for 3.5 percent of export volume in 2003. Finally, there are also exports of fish maws, both dried and fresh).

Table 2.2 Formal exports of fishery products from Uganda, 2000 to 2004

Year	Fresh whole		Frozen whole		Fresh fillets/pieces		Frozen fillets/pieces		Total	
	Quantity (kg)	Value (US$)	Quantity (kg)	Value (US$)	Quantity (kg)	Value (US$)	Quantity (kg)	Value (US$)	Quantity (kg)	Value (US$)
2000	46,744	85,527	118,664	244,845	2,603,098	6,215,099	11,537,165	21,733,282	14,305,671	28,278,753
2001	60,779	162,218	20,875	99,587	9,651,310	31,221,053	17,675,082	43,513,256	27,408,046	74,996,114
2002	5,848	23,109	3,000	3,015	9,201,516	36,817,627	15,717	48,539,754	9,226,081	85,383,505
2003	202,262	471,344	113,437	226,709	8,207,984	27,653,966	16,231,912	54,513,355	24,755,595	82,865,374
2004	416,950	951,780	25,000	1,096	19,246,533	70,418,139	10,725,340	27,174,722	30,413,823	98,545,737

Source: UBOS (2004c).

Global markets for internationally traded fishery products were valued at US$58bn. in 2002, of which Uganda has a share of approximately 0.2 percent. The main market for Ugandan fish exports is the EU, accounting for some 73 percent of the value of fishery product exports in 2004 (Table 2.3). The other 29 destinations each accounted for less than 7 percent of the total value, of which the U.S. and the UAE are the only ones of note. The market of dominant strategic interest is clearly the EU, on which Ugandan exports are most dependent, and aside from which there are few alternatives as large in terms of demand or as accessible in terms of distribution costs.

Table 2.3 Primary destination of Ugandan formal exports of fishery products in 2004

Market	Quantity (kg)	Value US$	Percent of fish exports (by value)
EU	21,378,267	71,739,482	73
UAE	1,773,151	5,900,560	6
USA	1,581,582	6,431,516	7
Australia	1,247,399	3,090,670	3
Kenya	651,396	1,380,183	1
Singapore	499,223	1,412,678	1
Hong Kong	391,507	1,485,149	2
Israel	392,675	846,024	1
Others (22)	2,498,623	6,259,525	6
Total	30,413,823	98,545,787	100

Source. Uganda Bureau of Statistics, 2005

The EU market is also supplied with nile perch products from Kenya and Tanzania. Of the 3 riparian countries, Tanzania is the largest supplier (57 percent), followed by Uganda (31 percent), and Kenya (12 percent).[61] A significant proportion of the main export product from this fishery (nile perch fillets) is known to be distributed to the catering trade in both fresh and frozen form. Frozen nile perch also enters EU processing where it is added to some value-added and ready meal products. A relatively small proportion is sold at retail, where it is not differentiated as a Ugandan product.

Regional fish exports

Uganda has two types of regional trade in fishery products: fish traded on Lake Victoria (and possibly other lakes); and fish traded across land borders.

Fish traded across Lake Victoria

Some of the fish caught by Ugandan fishers on Lake Victoria is trans-shipped to transport vessels on the lake, or at an island landing, and landed in Kenya (and to a much lesser extent, Tanzania). This trade contravenes current GOU law, which dictates that fish has to be landed within the District issuing the licence (presumably with the intention of retaining cess taxes levied on landings, based on the rationale of retention of fiscal revenues and economic value added derived from national fish landings). Furthermore, the export of unprocessed fish is also prohibited, with the objective of retaining value added and employment in fish processing. Such practices in Uganda are commonly referred to as "fish smuggling", and the fishers and traders who pursue

[61] Source: EUROSTAT. See Goulding (2006), Annex 4, for a more detailed presentation and treatment of the EUROSTAT import data from these countries.

them are considered by the authorities to be criminals. Authorities also report a concern that much of the smuggled fish is undersized (that is, does not comply with the minimum size requirement for nile perch).

The volume of these lake transfers appears to have significantly reduced since 1997, when it is reported that 90,000 tonnes of fish was exported to Kenya (around half of the production from the Uganda portion of Lake Victoria).[62] It is most likely that this was being imported by Kenyan fish processors during Uganda's voluntary suspension of exports to the EU. Improvements in the capacity for on-lake monitoring, control and surveillance (MCS) (including upgrading of patrol capacity) have been applied to catch the so-called fish smugglers, and with some degree of success. Landings in Kenya appear to have declined since 2001, and those in Uganda have risen by a corresponding amount.[63]

While fish landed outside the borders cannot be taxed by the Ugandan authorities, the restriction of exports of unprocessed fish directly results in lower prices for the fishery sector. Prices offered to fishers are significantly higher in Kenya, principally due to the lower distribution costs borne by the fish processing sector (see discussion later). The current policy is therefore costly in terms of the incomes to fishers, although at the same time there are also benefits to landing and processing the product in Uganda (in terms of employment and value added in processing, and export revenues). There is a need to assess the relative costs and benefits of this approach which essentially provides value added and employment in processing mainly in urban and non-fisheries dependent regions with alternative employment opportunities, but at the expense of the highly fisheries dependent livelihoods of rural fishers. Also, enforcing landing restrictions occupies valuable fisheries MCS resources which might be better employed on enforcement of conservation.

Fish traded across land borders. Formal exports to regional markets were reported to be about 10,000 tonnes/year mainly to Rwanda, DRC and Kenya.[64] The main species reported are mukene, tilapia and clarias catfish. There are also informal exports to neighbouring countries,[65] amounting to about 20,000 to 25,000 tonnes of fish per annum, of which around 55-60 percent is directed to the DRC, about 30-35 percent to Kenya, and the balance to Sudan. There is also a small informal import, of fishery products of about 700 tonnes/year, mainly from DRC. An unknown proportion of the regional trade is in the form of smoked/dried products (with a production yield of approximately 30-35 percent of live weight) so the quantity involved on a live weight basis could be substantially higher. These figures represent the quantities traded across the land borders, and do not include any fish currently caught in Ugandan lake waters and landed in other riparian states. Much of the regional trade in fish has a low unit value (Ush1720/kg, or around US$1/kg).

Until now, Tanzania, Rwanda and Sudan have not featured as significant trading partners for fishery products, probably due to the distances between the main production regions and the land borders. Despite relatively modest apparent levels of current exports, the region does present considerable potential markets for Ugandan fishery products. Table 2.4 suggests that the regional market potential may be in the region of 2.4m. tonnes, whereas current supplies are less than 1m. tonnes in all countries. While these markets only have limited purchasing power at present, in the

[62] Ackello-Ogutu and Echessah (1997).
[63] Mwikya (2004).
[64] SCOPE (2005c).
[65] UBOS (2004a).

longer term the regional return to political stability will allow the Uganda fishery sector to develop trade with them, in particular products derived from small scale aquaculture production.

Table 2.4 Regional market potential for fishery products

Country	Population estimate ('000)	Current fish consumption (tonnes)	Potential* fish consumption (tonnes)
Uganda	23,500	189,859	376,812
Kenya	30,535	170,577	489,615
Tanzania	34,832	258,511	558,516
Rwanda	7,666	7,233	122,921
Burundi	6,283	12,063	100,745
DRC	48,651	294,279	780,097
TOTAL REGION	151,467	932,522	2,428,706

Note: * based on assumed per caput consumption = global average of 16.1 kg/yr
Source: Yearbook of fishery statistics summary tables; fish and fishery products - apparent consumption www.fao.org/fi/statist/statist.asp

Economic contribution of fish exports

The value added generated in the fishery sector was estimated to be Ush441,744m. in 2002 (Table 2.5), accounting for 4.6 percent of GDP, much of which is attributable to the export trade.[66] About 60 percent of the Ush350m. value-added generated by the export fishery is earned at the level of the fisher, and the balance in distribution and processing.

Table 2.5 Estimate of the economic importance of Uganda's fishery sector, 2002

	Production (tonnes, whole weight)	Sales (Ush m.)	Value Added (VA) (Ush m.)	percent VA	Profit on sales (percent)
Capture Fisheries Lake Victoria*	196,110	276,310	213,926	48	63
Other fisheries	88,619	97,153	66,979	15	30
Wholesale traders (Lake Victoria)	221,364	558,616	104,710	24	34
Wholesale traders (other Lakes)	55,080	95,699	25,283	6	53
Export processing	62,143	192,556	30,846	7	16
Aquaculture	2,360	Consumed locally	-	-	NA
Total	-	-	441,744	-	-

Note: *includes an estimated 60,000 t caught and transported illegally to other East African States. Source: Banks, 2003, Draft Business Plan for Uganda Fisheries Authority.

Other salient features of fish exports in terms of contribution to the economy are:[67]

- The catching sector provides the bulk of value added (63 percent) generated from the sector, sustaining employment for an estimated 265,918 persons directly employed in fishing.[68]

[66] Bahiigwa and Keizire (2003) have calculated that the fishery sector could contribute 12 percent of GDP
[67] Banks (2003).
[68] Bahiigwa and Keizire (2003).

- Profits are variable depending on the Lake; the highest profit margins are found in Lake Victoria, and the lowest in Lake George. Prices are lower and landing dues higher in more distant lakes.
- The value added from the domestic (and regional) fisheries (namely fisheries other than Lake Victoria) is also significant relative to other groups (accounting for abut 20 percent of total value added).
- Profits from the export orientated processing sector are lower than some of the other sectors due to high competition for raw material purchases and over-capacity within the sector.
- Aquaculture does not feature significantly as a contributor to economic value added. Its development has particularly strong implications for small holder poverty alleviation and nutrition.

Total sector employment was estimated at 265,918 (excluding those involved in fish farming). Of these, 262,686 people were directly employed in fishing and at landing sites (either as boat owners, fishermen, fishmongers, or artisanal processors), and those involved in boat making or net manufactures (Table 2.6). Most of these (202,520 or 77 percent) were employed in activities associated with the Lake Victoria fishery.

Table 2.6 Employment at fish landing sites

	Boat owners/fisher		Fishers		Others	Total
	Male	Female	Male	Female		
Lake Kyoga	8,616	355	22,670	96	6,490	38,227
Lake George	306	54	936		433	1,729
Kazinga Chanel	62	22	233		146	463
Lake Edward	155	35	714	35	316	1,255
Lake Albert	4,534	184	8,354	15	2,247	15,334
Minor Lakes and Rivers	663	16	1,974	12	493	3,158
Lake Victoria	60,622	1,554	46,632	0	93,712	202,520
TOTAL	74,958	2,220	81,513	158	103,837	262,686

Source: Bahiigwa and Keizire (2003).

Employment in fish processing was estimated to be 2580 in 2003.[69] This is thought to have increased to about 5000 in 2005, with increased output and several new entrants in this sub-sector.[70] At least 10 of the export processing establishments are located in Kampala, with employees drawn from the urban population.

Fishing is predominantly a male pursuit, although there are significant numbers of female boat owners. Downstream activities of processing and distribution involve significant levels of female participation. Of some 103,837 employed in downstream activities, approximately 42 percent are female. An estimated 28 percent of employees in export fish processing were female in 2005.[71]

Taking into account family sizes ranging from 4.2 to 5.5 and averaging 4.4 in fisheries communities, fisheries contribute to most, or all, of the livelihood of well over 1.2m. people in Uganda, or around 5 percent of the population. Incomes of boat owners and crew have improved substantially in recent year, with crew incomes rising about 70 percent in US dollar terms between 2000 and 2003 (Table 2.7).

[69] Ibid.
[70] Philip Borel, personal communication, September 2005.
[71] SCOPE (2005c).

Table 2.7 Annual average income per boat owner and per crew member

	2000		2001		2002		2003	
	Ush m.	US $	Ush m.	US $	Ush m.	US $	Ush m.	US $
Boat owner	1.41	772.95	4.66	2,652.28	4.45	2,476.77	2.17	1,106.51
Crew	1.66	907.50	2.97	1,690.39	3.41	1,895.83	3.02	1,536.07

Source: Nyeko (2004).

There is no detailed regional analysis of fishery dependency (in terms of fisheries contribution to incomes and employment at district or sub-county level), for which the availability of data is a requirement for effective policy planning for impact amelioration of fisheries management measures (particularly if access to the fishery is to be regulated in future). According to one source,[72] capture fisheries contribute significantly to the food security and incomes of the 20 districts adjacent to the major water bodies, which can therefore be regarded as highly fisheries dependent. It is notable that there are few, if any, alternative employment options in these riparian regions. On the other hand, fish processing accounts for far fewer jobs and takes place in mainly urban locations, which provide a better range of employment opportunities.

Dependency of livelihoods on the fishery sector is therefore significantly less linked to export fish processing in Uganda per se, than it is to the capture fisheries which supply export markets. In other words, the main employment and economic beneficiaries from the fish export business are those engaged in capture fisheries, and in a major part, those located on Lake Victoria.

2.2 INSTITUTIONAL AND POLICY FRAMEWORK

Current arrangements and proposed changes

Fisheries policy development and implementation falls under the authority of DFR within MAAIF, which operates under the Fish Act Cap 228 of 1964 (as amended) which is widely regarded as inadequate in several respects, mainly due to its being outdated and providing an insufficiently rigorous basis for a regional approach to fisheries management, particularly with respect to the institutional framework.

DFR is presently multi-functional, with leading responsibilities for integration of fisheries policy in the context of a range of national policy initiatives (PEAP, PMA, National Environmental Management Policy, Public Sector Reform Policy). Whilst DFR is generally responsible for development and promotion of the fishery sector, it is also responsible for ensuring sustainable exploitation of capture fishery resources. Fisheries resource conservation and management is directed by DFR in collaboration with local government (District Councils) responsible for the implementation and enforcement at local level. In the case of Lake Victoria, fisheries management decision making powers are ceded to the Council of Ministers of the Lake Victoria Fisheries Organisation (LVFO). DFR also performs Competent Authority functions in relation to hygiene standards within the fishery sector, and specifically in relation to approval of export establishments and export certification, through the Fish (Quality Assurance) Rules 1998.

DFR has not been able to adequately perform its functions in recent years because of inadequate funding and the lack of capacity to operate flexibly. This has prompted a major institutional reform of fisheries sector management as proposed by the National Fisheries Policy, approved by Cabinet in May 2004. The Policy has proposed the formation of the Uganda Fisheries Authority

[72] Banks (2003).

(UFA) as an autonomous institution of central Government which will take over many of the sector management functions currently performed by DFR. UFA would be managed by a Chief Executive and a governing board appointed by MAAIF. UFA would be the principal instrument of central government in meeting its responsibilities for sector management. Staffing structures and functions of UFA will better reflect the management needs of the sector, and DFR will undergo a retrenchment programme. MAAIF will however retain policy and legal functions in respect of fisheries.

The Fisheries Bill, currently in Parliament, proposes UFA as a body corporate with legal personality under the guidance of MAAIF, and will have developmental and law enforcement functions.[73] This approach appears to present a significant opportunity for improved fisheries governance in Uganda, this being a necessary step towards sustainable resource management. The approach is commensurate with steps being taken in other countries and regions, to ensure better separation of powers between policy and executive branches of fisheries governance. However, the success of this policy is dependent on adequate funding mechanisms being in place.

UFA's draft business plan projected a annual budget of Ush 6.6bn.[74] There will be no contribution from the state budget Consolidated fund. For the first year, donors[75] will provide an anticipated 11 percent of UFA's annual budget (falling to 5.5 percent thereafter) to cover staff retrenchment and technical support, with the balance funded from the fishery sector in the form of a levy on exports of 2 percent. The processing sector is broadly supportive of the proposal of levy funding, although there are reservations over the amount of levy and its focus on exports only.

The proposed export levy will be additional to the existing taxes on the fishery sector by Local Government, which is reported to amount to some Ush 14bn. per year[76] and take the form of a cess tax at landing sites and local taxes on other economic activities undertaken (vehicle entry, operation of input supply business etc). Only an estimated 10-15 percent of the local taxes is currently directed towards fisheries expenditure, with none directed towards fisheries management. This is symptomatic of the deficiencies of the tax collection system of Local Government, which is plagued with serious revenue leakages through the existing (tendered) privatised tax collection system; negative impacts on rural incomes due to it steeply regressive nature; harmful price distorting impacts on rural economies due to differential collection rates; and an almost complete de-linkage of taxes collected and services delivered.[77]

The export-only nature of the levy places the burden of the entire UFA costs on the formal export sector, which will essentially be subsidizing costs associated with informal and domestic trade, whilst still subjecting all sectors (including fish destined for formal export) to the existing inefficient collection of cess taxes by Local Government. If and when there is a reform of Local Government finance, GOU is recommended to consider amending the levy coverage to include domestic and regional trade, with collection at landing sites rather than processing establishments.

Thus the long term sustainability of the UFA funding proposals in delivering income for improved governance is linked strongly to a significant improvement in the distribution system

[73] See Goulding (2006).
[74] Uganda Fisheries Authority (undated).
[75] The EU, Belgium, Iceland, the Netherlands, the African Development Bank (ADB), and the Internatinal Labor Organization have all expressed interest in providing financial support. See Neiland (2005).
[76] Banks (2003).
[77] Bahiigwa et al (2004).

for fishery products, and the fiscal relationships between Local Government and the fisheries sector.

In addition, aiming for 100 percent funding of the annual budget from the fishery sector may be too ambitious and may impose levels of taxation which inhibit the export competitiveness of Uganda's fishery sector. The fishery sector of Uganda already labours under a disadvantageous cost structure compared to Kenya and Uganda as mentioned earlier. Given the social and economic importance of the sector, GOU may wish to consider contributing to UFA from the consolidated state fund, at least in the short term, such that it is equal to the current expenditure (Ush1.98bn. in 2001/2002). This approach is supported by the UFPEA, which, whilst supporting the establishment of UFA, believes that the 2 percent levy is too high. It also considers that the UFA should support the industry with market information and research, especially in the area of prices.

Policy framework

The policy framework for the fisheries sector is set out in the National Fisheries Policy which was approved by Cabinet in 2003. The 2004 Provisional Fisheries Sector Strategic Plan (FSSSP) shows clearly how the implementation of the National Fisheries Policy can be geared to meet both the PMA and PEAP, which define the overarching policies within which the fishery sector operates.[78]

Whilst the development of this policy framework is a very positive step, the various policy statements are rather circular in their contribution to the conceptual framework. The policies do not define some of the difficult decisions which need to be made in the future, for example regarding fisheries access rights. Furthermore they fail to translate the principles into specific actionable measures to be undertaken. As a result, it is not clear what in fact GOU will actually do that is different to the failed and failing policies of the past. In particular, there is a lack of definition and prioritisation of specific measures in terms of:

- identifying and prioritising those areas which represent the major bottlenecks to development; and
- proposing of specific measures for funding (whether by government or donors).

There is therefore a strong need to continue this policy formation process and develop a prioritised operational programme of specific costed measures for implementation. It is proposed that the priorities should be to address three critical bottlenecks where policy has, until now, failed to have a significant impact on the sector. These are:

- sustainable management of capture fisheries;
- upgrading of landing sites; and
- stimulating aquaculture production.

These issues underpin the future of the fishery sector and are intimately linked to maintaining the current levels of fishery product exports, improving their value and sustainability, and providing a basis for export growth in the future. These are discussed, in turn, next.

[78] See Goulding (2006) for the key areas defined by the National Fisheries Policy, the FSSP, the PEAP, and the PMA.

2.3 SUSTAINABLE MANAGEMENT OF CAPTURE FISHERIES

Given the high degree of economic dependency on fishery product exports, a key issue is the prospect for sustainability of capture fisheries on Lake Victoria. A recent report[79] has highlighted the pressures faced by the resource, including the following indicators of excessive exploitation:

- Doubling of fishing vessels and fishers from 1990 to 2000, and an acceleration since 2002
- Increase in use of illegal gears (18percent illegal mesh sizes in 2002)
- Decline in total catch, with a shift in focus from higher (nile perch) to lower trophic level (mukene) species
- Decline in catch per unit effort from 80 to 45kg/vessel per day
- Reduction of standing stock of nile perch from 650,000 tonnes in 1999 to 540,000 tonnes in 2002
- Catch levels of either close to or exceeding maximum sustainable yield (200,000 to 290,000 tonnes)
- Levels of fishing mortality estimated to be 40percent higher than optimal

The report concludes that "*the fishery exhibits classic indicators of intensive fishing, erring towards over-exploitation*" and warns that the potential for degradation of the resources is prevalent. That this has not occurred to date is considered to be due to the effect of the bans, adjustments to fishing strategies to maintain yields, dynamic responses in the food web to the fishing pressures, and possible environmental impacts on lake productivity, for example impacts of eutrophication on the food web and fish stock recruitment.

Fisheries management measures

The riparian countries have recognised that fisheries management needs to be coordinated at the regional level and donors have supported major regional projects, including the Lake Victoria Environmental Management Programme (LVEMP) (World Bank supported), and the Lake Victoria Fisheries Research Project and Lake Victoria Fisheries Management Plan Implementation Plan (EU supported). The latest of these is the Lake Victoria Fisheries Management Plan (LVFMP)[80] being implemented by LVFO with support from the European Development Fund (EDF). Although the project concept is well founded, there are several fundamental flaws in the management approach adopted, particularly with respect to the absence of fishing capacity limits (see next sub-section on sustainability).

Separate from the above, capacity limits on fish processing establishments have been proposed as a fisheries management measure based on the argument that the increase in export capacity has resulted in excessive exploitation of the lake fisheries. Specifically, a moratorium on new establishments and reduction of capacity of existing factories have been proposed. However, this would be very damaging to the fishery sector exports for the following reasons.

1. Ultimately export demand is derived from export markets, so whether production is channelled through one establishment or many is irrelevant, demand for fishery products at the landing sites will remain the same. For this measure to be feasible, it would have to include a system of export quotas allocated between export establishments. This would result in a "high grading" strategy by processors, conserving quota for premium grade fish, and

[79] Ian Cowx et al (2005).
[80] Cowx and Crean (2001). See Goulding (2006) for summary of the Plan.

rejection of others which might otherwise find second quality markets (for example as frozen product). Such strategies are frequently employed by fishermen operating under a quota system, and are well documented. The most immediate impact would be to depress first sale prices and fishers incomes which would encourage fishers to replace lost income by fishing more to increase catch and replace lost incomes. In most regions the proposed measure would therefore be likely to result in an increase in fishing effort, that is, the direct opposite effect of the one desired.

2. Despite the best efforts of the regulators to stop so-called "fish smugglers", there is an effective cross-lake international trade in fish, mainly in Kenya's favour. This trade would adapt to the availability in processing quotas, thus negating any possible benefits (unless such measures were applied in all three riparian countries which is highly unlikely since, with the smallest share of production, it is not in Kenya's interest to do so).

3. Although there are too many small landing sites where there is no effective competition for supplies, at larger sites the present competition between processors means that there are multiple buyers, such that fishers benefit from better prices than they otherwise would obtain. Limiting this competition, by intervening to limit the number of processors, would tend to reduce fishers' incomes.

4. Excess processing capacity is currently one of the factors driving the export processors to invest in aquaculture development as an alternative source of supply, demonstrating market forces at work.

5. Cost structure of export processing is such that, at current levels of trade, 90 percent of the operating costs are variable (and 80 percent is raw material cost). Since fixed costs are a relatively small part of the cost structure, profitability is not sensitive to small changes in volume. Excess capacity in the sector therefore does not provide a major incentive to obtain raw material supplies at any cost. Under-utilisation of processing capacity, whilst an issue, is therefore not of critical relevance to intermediate demand.

Until now GOU has resisted calls for processing quotas, and it is strongly recommended that they continue to do so.

Prospects for sustainability

There are several issues of concern over sustainable fishery on Lake Victoria which are not being addressed by the current approach.

First, fisheries resource management issues appear to be secondary to national interests driven by a concern to protect perceived national rights and benefits. Thus, in Uganda, fisheries management resources are not optimally allocated (for example resources may be directed at preventing fish "smuggling" rather than eliminating unlicensed fishers) and each country competes to ensure maximum yields.

Second, failure to address as a central policy issue the open access nature of this fishery. Given the impracticality of managing the fishery through catch quotas, and the difficulty in enforcing technical measures (such as mesh size limits, slot size regulations), there is an urgent need to consider the issue of limiting access to the fishery as a means of slowing the continuing uncontrolled growth in fishing effort.

The issue of access limitation has hardly been discussed anywhere within the whole policy framework for fisheries, and does not appear on any policy agenda, neither at national nor regional level. The only significant initiative is the development by LVFO of a regional plan to eliminate illegal, unreported and unregulated (IUU) fishing.[81] This obviously is a good starting point, but whilst licences continue to be issued to anyone on payment of the fee, and irrespective of resource condition, its main effect will be to increase licensed fishers, not to reduce fishing effort. Without clear and meaningful steps to limit fisheries access, such as capping the number of licenses and setting entitlement rules for issuance of new licenses and transference of existing licenses, the long term prospects for sustainable capture fisheries on Lake Victoria are remote.

Clearly, there are many potential problems which would need to be addressed in designing and implementing such an approach, not least of which are the political pressures for the status quo at both national and local government levels. The current fiscal incentives for Local Government to issue licences would need to be reduced and new licence allocation systems designed based on community management principles requiring improved levels of organisation at beach landing sites. Recommendations for measures at the national and regional level, as well as for addressing fiscal incentives of Local Government, are presented in the last section of this chapter.

2.4 UPGRADING OF LANDING SITES

There are too many landing sites on Lake Victoria, resulting in inefficient distribution systems and complicated fisheries management. There are an estimated 552 effective landing sites, which suggests an average daily landing of less than 1 tonne per day per site. A single transport buyer with vehicle will therefore typically visit several landing sites to make up a load. No landing site meets all of the EU requirements as set out in the Fish (Quality Assurance) Rules of 1998, and only a few have rudimentary facilities for improved quality. Poor quality due to the lack of facilities, the perishability of the product, the lack of concentration of landings, and the monopoly position at many smaller landing sites mean that the fishers are price takers with only weak bargaining positions. With hygienic handling and basic storage facilities (ice and an insulated fish store), both nile perch and tilapia can be kept at exportable quality grade for at least one week, if not longer. The potential for improved local storage and for consolidating the collection system suggests that there is considerable scope for improving efficiency during first landing and distribution.

To meet the requirements of the Fish (Quality Assurance) Rules of 1998 and of EU Regulations 852/2004 and 853/2004 with respect to hygiene conditions, landings sites would need to include the following features, at a minimum:

- Supply of potable water (for example filtered and chlorinated lake water)
- Drained hygienic hard standing for vehicles
- Covered area (*banda*) for receiving/displaying fish
- Insulated fish storage facilities
- Facilities for hygienic storage/removal of waste
- Supply of ice (ice store or ice machine)
- Toilet facilities (flushing water closet) and hand washing facilities
- Fencing around fish handling areas to prevent entry of animals/pests
- Facilities for cleaning the landing site, vehicles, vessels and fish boxes etc.

[81] LFVO/FAO (2004).

A study in Kenya in 2004[82] indicated that the cost of upgrading a medium sized site to meet a basic minimum standard would be about US$100,000 (excluding any refrigeration equipment and generators). Clearly larger landing sites make the installation of refrigeration and ice plant an economically viable option (another argument in favour of concentration of landings). Installation of ice plants and fish storage rooms will be one of the main means by which beaches will provide services to attract fishers and buyers. Typically a 5 tonne per day ice plant would cost about US$20,000, and chill room with refrigeration plant about the same.
There is also a requirement for clear management structures, such that an individual has a clear responsibility for ensuring the hygienic operation of the site. Until now this has only rarely been the case, the exception being a small number of privately owned and operated landing sites under the management of export processing firms.

Government policy considers landing sites to be **public infrastructure**, much in the same way as market halls. Government has assumed responsibility for the capital investment required for the development of landing sites. Thus it has secured loan and donor finance for the upgrading of up 39 locations. A major part of these will be upgraded under the ADB Fisheries Development Project, which will finance the construction of and equipment for 30 fish landing sites with management to be contracted to beach management units (BMUs). EDF will also support the upgrading of 6 landing sites (through the LVFMP Implementation Project), JICA will fund two landing sites and China one.

Responsibility for the management of these facilities is delegated to District Councils, and current policy is to encourage the local government for contract (by tender) with BMUs for their management. Local Government has a clear interest in developing functional fish landing sites since they provide a means of generating significant revenues. As discussed earlier, the current Local Government tax system needs to be reformed. With respect to fishery sector, this reform must be linked to a reduction in the number of collection points and the associated introduction of the levy required for funding the proposed UFA (see later in this chapter for specific recommendations).

By regarding landing sites purely as a public infrastructure, GOU has failed to provide a suitable enabling environment to ensure the necessary capital investment is directed at improvements in beach landing sites. There are five main problems with the current approach, which in combination result in the current stasis in development.

First, public investment funds are insufficient and mobilized too slowly to respond to the demands of a globally integrated export trade. The number of upgraded sites required is certainly more than those under construction. Were current Ugandan catch volumes to be landed at sites with an average throughput of 10 tonnes per day, this would correspond to about 58 landing sites on Lake Victoria. To account for some smaller sites in remote locations, it is likely that there will be a need for 70-80 landing sites.

Second, the locations, dimensions, and design of the landing sites will be centrally planned by civil servants and consultants, albeit through a consultative process. Given the revenue generating capacity of fish landing sites for local government, there is a justifiable concern regarding political influence and corruption in centrally planned sitting decisions. It is inevitable that there will be a sub-optimal allocation of capital, and in some cases, complete misdirection.

[82] Goulding (2004).

Third, the lack of any sense of ownership at the level of fishery is most likely to result in poor management in the operation of the facilities (for example in maintenance, repair and future development). This is evident from the long and sorry history of government and donor support for fisheries distribution infrastructure in East Africa and elsewhere.

Fourth, GOU's persistent and stated assumption of responsibility for development of distribution facilities creates an effective barrier to any private sector investment, by generating uncertainty regarding potential future competition. Who will invest today in a modest facility, if Government might intervene tomorrow with a bigger one next door?

Fifth, GOU has a clear legal responsibility as the Competent Authority to enforce hygiene conditions at landing sites. Ultimately this requires approval of compliant sites, and closure of non-compliant sites. It is not likely that DFR (or the future UFA) will act strongly against a non-compliant landing site in which it has just invested significant public funds. At present there is a clear conflict of interest within DFR between the development and regulatory functions. They should be separated.

It is evident that the current policy of GOU, along with that of the major donors and lending institutions, is not coherent with general policy in respect of role of government in the private sector.[83] It fails to meet the needs of the sector, in terms of both improving security of fishery livelihoods and achieving the efficiency and quality improvements required for an internationally competitive fishery sector operating within a global market.

This represents a major missed opportunity for Uganda, particularly in relation to competition with Kenya and Tanzania, both of which pursue similar policies and neither of which have EU compliant landing sites. Were Uganda able to claim full EU compliance in advance of her neighbours, the competitive position of the national fishery sector would be significantly strengthened in the global market place. Given the weaker competitive position of Uganda in terms of distribution costs, and the need to adopt a quality based strategy, this approach would appear to be highly desirable. A new approach to landing sites is urgently required (see recommendations later in the chapter).

2.5 STIMULATING AQUACULTURE PRODUCTION

In light of the naturally limited production from capture fishery resources, aquaculture provides the only realistic means of providing a new source of fish to maintain the fishery export growth the past decade. While there is currently very little aquaculture in Uganda, its potential is considerable given the temperatures and availability of good water supplies in the country.

A recent comprehensive review of aquaculture development potential and requirements[84] assessed the potential for farming of nile tilapia (*Oreochromis niloticus*), catfish (*Clarias garepinus*) and nile perch (*Lates niltocus*), considering them as candidates for aquaculture. The study usefully distinguishes between different scales, capital investment and intensivity of production system.

[83] The approach lacks coherence with the stated role of the private sector in landing site management, described in Section 6.2.5 of the National Fisheries Policy.
[84] Gregory (2004).

Table 2.8 Scales of aquaculture production system

Level	Scale	Production system (stocking density)
1	Small	Extensive
2	Medium	semi intensive
3	Large	intensive

Source: Gregory (2004).

The study concluded that tilapia farming potential presents the most immediate opportunities since:

- The species is robust and well adapted to culture systems
- A range of different production technologies are well established, requiring only adaptive research (for example in selective breeding and feed development with local materials)
- The species finds ready national, regional and international markets (it is the most frequently consumed fish in Uganda and is already exported to the EU)

In Uganda tilapia can be cultured in earth ponds in land-based culture systems, and also in cages in suitable lake and river locations (including the River Nile). Clarias culture was considered to be a good immediate candidate for Level 1 production (that is, small scale, where it is currently produced in polyculture systems with non-sex reversed tilapia.[85]) The species finds ready markets, both as live bait for the nile perch fishery and for national and regional markets, especially DRC. There is no significant international demand. Development of more intensive (level 2) production systems is thought viable, but would require some applied research to improve hatchery and nursery techniques and feeding regimes. With respect to other species, nile perch is not considered to be a realistic candidate for aquaculture at present; basic research is required on hatchery and nursery production techniques, and nutritional and feed requirements. Apart from this, being carnivorous (as indeed is *Clarias*) it would require a fish based diet, and current cost structure of the capture fishery clearly undermines development of commercially viable culture systems. The study also suggests other possible candidates for small scale extensive (Level 1) and semi intensive (Level 2) aquaculture, in particular mirror and grass carps, ningu carp and *Bagrus* catfish, all of which could be established relatively easily.

The National Fisheries Policy supports aquaculture, this being one of the main policy areas defined.[86] Whilst the strategy is broadly sound, as with other branches of fisheries policy, proposals for specific measures are poorly developed.

A number of important initiatives are currently under way which are expected to radically advance the rate of aquaculture development in Uganda. This includes a USAID project launched in 2005 which will establish model cage- and pond-based fish farms in Uganda (see Box 2.1). There is also emerging interest in aquaculture by large private investors, amongst the most high profile of the projects currently being developed are the following, all of which target both domestic and export markets:

[85] Tilapia will grow and multiply well, feeding on algae produced by fertilized ponds. However due to high natural fecundity, monoculture (single species culture) of tilapia tends to produce large numbers of small fish. By careful population balancing during phased stocking in a polyculture (multi-species culture) production system, tilapia can provide food for carnivorous *Clarias*, whilst some individuals avoid predation and grow to market size.

[86] See Goulding (2006) for role of government in aquaculture as envisioned in the National Fisheries Policy.

- A joint venture between a Ugandan fish processing firm and an established Zimbabwean aquaculture producer is investing in land based tilapia culture, presently in development at Jinja. The project has technical collaboration with the USAID FISH Project and the Centre for Development of Enterprises (EDF-funded). The development will use domestic selectively bred strains, develop a monosex hatchery, and produce in a semi intensive system using feeds developed as much as possible with locally available ingredients.

Box 2.1 The USAID FISH Project

This project is being implemented by the International Center for Aquaculture and Aquatic, Auburn University, USA. The project started in 2005, has a value of US$2.5 million and duration of 40 months. The main objective is to help jump-start the commercial fish farming industry in Uganda (including for export supply) by addressing some of the known developmental bottlenecks. The project is based at the Kajjansi Aquaculture Research Station and employs a team of US and Ugandan specialists.

The project will establish model cage- and pond-based fish farms in Uganda that are based on high-quality fish feeds and best management practices for viable commercial production of fish, primarily tilapia and the *Clarias* catfish. These model production systems, to be located on private farms, will serve as demonstration sites for spreading the technologies to others. The project also supports input suppliers (hatcheries and feed producers) with technical expertise and will initiate a selective breeding programme based on domestic genotypes of tilapia.

- A joint venture between a Norwegian tilapia culture specialist with a Ugandan fish processor and fish farming investor is reported to be investing US$15m. in tilapia hatchery and grow out facility at Masaka, to produce 30,000 tonnes/year by 2009. Coming on-stream in January 2006, the facility will reportedly use a non-native strain of *Oreochromis niloticus*, the nile tilapia. Anticipated yields are up to 40 tonnes per hectare. The hatchery will also supply outgrowing farmers, including those in neighbouring countries. There is no information on the feed supply and approach to the apparent contravention of the Aquaculture Rules 2003 (prohibiting the importation of live tilapia).

- A Ugandan national conglomerate with interests in a wide range of consumer products is developing a investment plan for pond passed tilapia culture near Masindi in the western lowlands; the project may also include a feedmill, drawing on raw materials derived from the company's existing oilseed and animal feed interests.

Constraints

Given the technical potential, the main constraints to development of aquaculture are considered to be the low availability and high cost of inputs, including good quality tilapia fry (selectively bred, good growth rates, monosex[87]) and feeding stuffs. To a lesser extent, the regulatory framework and investment environment are not as conducive as they could be. In addition,

[87] In commercial monoculture (single species culture) of tilapia, to avoid production of large numbers of small fish it is necessary to prevent them from breeding. Although there are various methods available, typically this achieved by sex-reversal of females by hormone treatment of juvenile fish, producing a monosex male population.

certain aquaculture methods will require the development of appropriate social models to avoid resource use conflicts. These constraints are discussed, in turn, next.

Supply of fry. Broodstock is a key determinant of fry quality. Currently import of live tilapia is prohibited under the Aquaculture Rules 2003. The use of foreign broodstock (with 20-30 generations of selective breeding) could provide a rapid means of providing good quality fry in the short term. However there are risks associated with this strategy, in terms of possible competitive dilution of domestic genotypes though escapes, and of disease introduction. A lower risk, but slower, approach would undertake selective breeding of domestic genotypes (some of which are reportedly exhibit excellent growth characteristics). In fact both approaches are being investigated at present by competing investors and the USAID FISH project is working on the selective breeding of national strains.

Whatever the broodstock source, the efficient production of tilapia requires monosex (male) tilapia to ensure decent growth rates. Based on the Egyptian experience (see Box 2.2), the hormone method of producing monosex fry should be promoted as the key technology, and its dissemination through all means possible should be at the core of a new aquaculture development policy for Uganda. Non-monosex production or use of other means of achieving monosex fry are technically feasible, but they are not as practical or cost effective, although they could have a role to play (in for example organic or eco-labelled production).[88] All the major investments projects described above are keen to supply fish fry to small scale farmers, and to develop outgrower schemes.

Supply of feedstuffs. With respect to feeds the challenge is to design feed formulas using cost effective local ingredients as far as possible, and then produce a suitable pelleted floating feed. There is no production capacity for such a feed within the region, although at least two investors are reported to be seriously moving towards such a development (which would easily satisfy foreseeable medium term demand). USAID FISH project is working with these investors on ingredient formulation issues to ensure optimal production costs and benefits in relation to industry needs.

Aquaculture regulation. The 2003 Aquaculture Rules represent Uganda's first attempt to establish the regulatory framework for aquaculture. They require permits for semi-intensive and intensive aquaculture, permits for fry production and marketing, and permits for domestic movement of cultured fish; they restrict import of live fish, limit use of genetically modified fish; certification of aquaculture inputs (feeds, fertilisers and veterinary compounds) and record keeping and reporting; they also derogate minimum sizes requirements for farmed fish.

However, these regulations provide an inadequate framework for development. The problems are several, as follows.

The Rules establish too many different types of permits; it appears that hatcheries will require a permit as both an aquaculture unit, and to produce and market fry. There is a need for a single approval subject to meeting technical conditions (for example with respect to environmental impacts, water extraction approvals, etc) after which operators (hatchery, nursery and grow out) should be free to produce and market fish without additional controls other than routine inspections to ensure that conditions are complied with. Meeting the "public interest" condition for approval is too general; approval should be given wherever specified technical conditions are met. The permit exemption for extensive aquaculture is not justified. Extensive production

[88] Personal communication from Karen Veverica, Team Leader, USAIF FISH Project

systems, or units below a certain size, could however have less strict approval conditions. Wild fry collection should be specifically addressed (and subject to permit since it may sometimes be appropriate). Import restrictions on wild fish are too specific and may limit development. Imports should be allowed subject to a permit (for example it may be desirable to import tilapia broodstock, currently a prohibited species in Schedule 8). The requirement for fish transfer permits for all domestic transfer of fish from aquaculture is excessive and unduly restrictive on production and marketing activities. Movement permits should be required only in declared disease zones (or at least they should be waived in declared disease free zones). The derogation on minimum sizes for farmed fish should be retained and their aquaculture origin established by requiring all products to be accompanied with a document declaring their establishment of origin and approval number.

Box 2.2 Aquaculture development in Egypt[89]

Egypt established governmental aquaculture production farms and hatcheries in late 1978. Total aquaculture production in 1978 was about 15,000 tonnes. In 2003 aquaculture production reached 445,181 tonnes (GAFRD Annual statistical year book, 2003) and will probably reach 500,000 tonnes in 2005. Tilapia, mullet and carp are the three major species with production at 167,700, 113,000 and 92,200 tonnes respectively, with marine species representing around 1 percent of production. There are now over 600 private sector farms covering an area of over 350,000 hectares, and providing employment to about 15,000 people. Total income derived from aquaculture amounted to about approximately US$440m. in 2002. The majority of aquaculture (about 88 percent) in Egypt is produced from semi-intensive brackish water farms using pond based monoculture systems. Cages and mixed rice-fish culture represent 22 percent. All the aquaculture products are consumed locally; the per capita consumption of fish from catch, aquaculture and importation minus exportation reached 14.30 kg in 2002. Egypt has not met the residue controls required to be able to export the product to the EU.

Egypt provides Africa with the only example so far of successful aquaculture development. Key policy measures which allowed the development of the sector were the relatively lax regime for obtaining permits, and Government and donor support for a credit scheme (at commercial rates) for monosex hatcheries, and feed producers backed by technical assistance. On the other hand, marine aquaculture has never taken off due to a restrictive policy regime, in which the government retains a monopoly on the wild harvest of fry, encouraging the black market and inhibiting private sector investment in marine hatcheries. Strong domestic market demand for low cost fish against limited supplies from marine fisheries and imports have also provided appropriate market conditions.

Fishfeeds are only weakly regulated and more detail is required. Feed establishments should be subject to approval subject to meeting certain conditions (hygiene and HACCP, raw material sources, especially fishmeal etc). However the requirement for batch certification of feeds is too strict and should be removed.

Veterinary drug controls on farm are also too weakly defined. There is a need to specify conditions regarding prescription, storage, use, record keeping, withdrawal and communication of treatments (if fish are transferred during withdrawal period). Permitted veterinary medicines and

[89] National Aquaculture Sector Overview Fact Sheets Search, FAO Fisheries Global Information System http://www.fao.org/figis/servlet/static?dom=root&xml=index.xml

usage conditions (including sex reversal hormones) for use in aquaculture need to be defined (possibly under National Drug Authority rules, or rules under the Veterinary Medicines legislation). The regulations should also specify the duty of the Minister to design and implement a residue monitoring programme for aquaculture products. This will be essential if Uganda is to export aquaculture products to the EU market in future.

In conclusion, the Aquaculture Rules 2004 over-regulate some issues of the sector, and under regulate others. They do not provide an adequate legal framework for meeting EU veterinary medicine controls and residue monitoring. For these reasons, it is therefore recommended that the Aquaculture Rules be revised as soon as possible to provide a streamlined system of permits, whilst improving controls over the potential hazards arising from feeds and veterinary medicine inputs.

The international investors at present assume that Uganda will in future comply with the EU requirements for controls of veterinary medicines and residue monitoring in products of aquaculture. Although DFR is aware of the need to undertake this work, no specific activities have commenced.

Investment environment. Technical knowledge in aquaculture is lacking at present. There are insufficient technical training, consultancy and extension services. There is a need for upgrading fisheries training activities with a much greater focus on practical aquaculture skills. However there is no evidence from any other country that public investment in aquaculture and fisheries extension services operated by Government has an impact on aquaculture development. Such technical services are more effectively delivered by the private sector input providers, for example through feed suppliers, credit suppliers, hatcheries and processor led grow-out schemes. A supply of well trained and qualified candidates from university and training institutions should be able to ensure that these services are delivered effectively in future.

Lack of finance may also be a limiting factor. Many investment institutions are ignorant of the aquaculture potential, and it is reportedly virtually impossible for small and medium scale aquaculture investors to obtain finance. There may be a justification for a credit scheme directed specifically at hatcheries and small/medium sized grow out facilities, which can also provide the framework for the delivery of a technical assistance service. The potential for this will need to be assessed as other development constraints (such as poor regulatory framework and lack of export market access) are removed. The ADB Fisheries Development Project could provide the means for this.

Model for lake-based aquaculture development. There is considerable potential for cage based aquaculture in Uganda's lakes and rivers. Investment projects will need to be assessed for their environmental impacts. However, there is also potential for conflict between traditional fishing communities and cage farming, over perceived or real impacts on fish stocks and catches, lake bed usage and use of traditional fish marketing infrastructure. This potential needs to be addressed in the aquaculture development policy.

Ideally, these conflicts should be minimised by applying to the development of cage farming the co-management principles already clearly expressed in the national fisheries policy. This could involve empowerment of communities to make decisions regarding the allocation of lake usage rights for cage farming. Clearly the ownership of the lake should remain in public hands. However, as with land-use rights at the lake side, certain lake- or river-bed usage rights could be transferred to the traditional fisheries communities, allowing the for cage sites to be leased or otherwise deployed according to the wishes of the community. Clearly there are significant legal

issues to be addressed in such an approach, and DFR is recommended to consider a more detailed review with a view to assessing the feasibility of such an approach.

Model for land-based aquaculture development. Land-based aquaculture development may be pursued by large or small investors. Large investors will tend to aim at export markets, and develop more capital intensive and efficient production systems. Poverty reduction impacts of such investment will be rather limited (providing limited employment in production and sustaining jobs in export processing). The greatest potential for export-led poverty reduction from aquaculture could be achieved by linking small land based producers through outgrower systems to export processors. The model for this is the "*export village*" concept promoted by the Presidential Taskforce on Country Zoning Strategy. Here GOU could facilitate development by identifying the areas with suitable conditions for land-based aquaculture (based on temperature, water supply, topography and soil conditions), and support investment through the development of public infrastructure (supply and drainage canals), area level assessment and approval of environmental impacts, and associated credit schemes to help small investors.

2.6 STATUS OF QUALITY ASSURANCE AND FOOD SAFETY STANDARDS

Since 1991, the EU has progressively introduced a series of controls on domestically produced and imported food stuffs aimed at protecting consumer health. In the case of fishery products, these requirements were initially set out in "Council Directive 91/493/EEC of 22 July 1991 laying down the health conditions for the production and the placing on the market of fishery products" and "Council Directive 92/48/EEC of 16 June 1992 laying down the minimum hygiene rules applicable to fishery products caught on board certain vessels". These measures will be repealed at a date after 1 January 2006 and be replaced with new regulations which were published in 2004 (the new hygiene and official control regulations[90]).

The general approach adopted by European law is to require that production and control conditions of food imported from third countries are "*at least equivalent*" to those applying to food produced within the EU.

Approval of establishments (and vessels) is the principal means of control used for official control of food safety conditions for all products of origin. Technical conditions for approval are set out in legislation and include compliance with hygiene and HACCP provisions. Conditions such as traceability are included in the new hygiene regulations. Specific import conditions may be established by the European Commission. Usually, these will follow an inspection of the health conditions in the third country by the Food Veterinary Office of DG Health and Consumer Protection of the European Commission. The assessment of the health conditions takes into account a range of issues related to the legislation and organization of the third country's control system and its Competent Authority (which in Uganda is DFR).

[90] REGULATION (EC) No 882/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules.
REGULATION (EC) No 852/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on the hygiene of foodstuffs
REGULATION (EC) No 853/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 laying down specific hygiene rules for food of animal origin.
REGULATION (EC) No 854/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 laying down specific rules for the organization of official controls on products of animal origin intended for human consumption.

Commission Decision 97/296/EC "*drawing up the list of third countries from which the import of fishery products is authorised for human consumption*" sets out the countries on List 1 (subject to a specific decision) and List II (list of countries authorized for an interim period) and is periodically updated. Uganda entered List I by Commission Decision 2001/633/EC of 16 August 2001 laying down special conditions governing imports of fishery products originating in Uganda, suggesting that full compliance with EU provisions has been verified by the EU. As a result, Uganda may export fishery products to the EU, but only from capture fisheries. Additional requirements are set out for aquaculture products, and no attempt at compliance has been made so far by the Competent Authority. Until the appropriate controls are developed and introduced (see Box 2.3), Uganda will not be able to supply fishery products from aquaculture to the EU.

Uganda has had turbulent experience of meeting EU food safety conditions during the last decade (Box 2.4).[91] Formal fishery product exports fell in the late 1990s as a result of voluntary and mandatory restrictions on the export of certain fishery products due to food safety concerns. The losses to fishermen due to the loss of market access were estimated at US$1m. per month with a reported lay off of 60-70 percent those directly employed in fishing and processing, and income reduction of those remaining to less than one-third of their normal earnings.[92] The bans (some of which also affected Kenya and Tanzania) did however reportedly impact positively on the fishery resource conditions of Lake Victoria.[93]

Uganda successfully overcame the problems of non-compliance with EU standards regarding its fish exports in the late 1990s. By now, the country has developed a world class fish processing sector, with 15 well capitalized establishments, applying modern processing techniques alongside HACCP control systems, all fully compliant with all of the requirements. These establishments are equal to any in the world. On the other hand, the majority of landing sites, from which export product is sourced, fail to comply with even basic hygiene requirements, presenting a considerable operating risk to the sector. According to Ponte (2005), the EU control system continues to create a high risk operating environment for the export dependent Ugandan fishery sector, where access to the market may also depend on factors outside the control of both the industry and the Competent Authority. The EU has allocated significant levels of funding to support ACP countries to meet EU requirements, including to Uganda, although with limited prospects of achieving a positive impact (see Box 2.5).

DFR has developed a good technical capacity for health inspection in the fishery sector. However organisation of the inspection services is split; there are 14 inspectors in the DFR, responsible for landing sites and export establishments, and a further 30 inspectors employed by Local Government in inspections mainly at landing sites. Many of these inspectors have undergone HACCP training and an increasing number have relevant post-graduate qualifications (for example in food safety). Testing laboratory capacity is available at Chemiphar and UNBS. In 2005, DFR opened its own laboratory in Entebbe, with support from ICEIDA, and its capacity for chemical testing is being further strengthened with equipment sourced under the ADB Fisheries Development Project. The laboratory will seek accreditation for microbiological methods through the South African National Accreditation Service (SANAS). Inspector training capacity is being strengthened through the agreement that a regional training centre at Mbegani Tanzania, with support from the EU SFP Project. New regional codes of practice and standard operating procedures have been developed though the LVEMP project (with EU and World Bank support) with a view to regional harmonisation of inspection procedures and approaches.

[91] From Ponte (2005).
[92] Nyeko (2004).
[93] Kaelin and Cowx (2002).

Box 2.3 EU Requirements for Residue Controls and Monitoring in Aquaculture Products

Council Regulation 2377/90 *laying down a Community procedure for the establishment of maximum residue limits of veterinary medicinal products in foodstuffs of animal origin* requires that only approved pharmacologically active substances are used for the veterinary treatment of animals which are used for human food. Approval procedures are defined. Council Directive 96/23/EC of 29 April 1996 *on measures to monitor certain substances and residues thereof in live animals and animal products* defines measures to monitor certain substances and residues in live animals and animal products.

The main requirements for the control system are:

- Procedures for approval and classification of veterinary medicines as Annex I, II, III or IV (see below)
- Controls on import, production and distribution of controlled compounds
- Controls on prescription and application of certain compounds to animals (for example under veterinary supervision)
- Storage and stock controls on farm
- Record keeping of medicinal applications on farm
- Separation of treated and non-treated animals
- Holding of treated animals for withdrawal period prior to slaughter
- Information and communication requirements in respect of animals sold before the end of the withdrawal period.
- Design and implementation of residue monitoring programme (sampling and laboratory analysis) to check the extent of compliance with the controls

Box 2.4 Chronology of EU fish import bans

- February 1997 – Spain and Italy claim that their authorities have detected high levels of bacterial contamination (including *salmonella*) in products from Lake Victoria: they impose a bilateral ban on fishery product imports
- March 1997 – EU inspection confirms 'serious microbiological contamination'
- April 1997 – EU requires mandatory tests for salmonella on imports of Nile Perch from the three East African countries; these tests are paid by exporters or importers
- December 1997 - June 1998 – following an outbreak of cholera in East Africa, the EU bans the import of fresh fish and imposes mandatory tests on frozen fish from East Africa; lifted because it was not based on scientific evidence, but on EU claims that the competent authorities were not applying sufficient measures to control the outbreak of cholera (Waniala 2002: 2)
- November - December 1998 – EC sends a Food and Veterinary Office mission to Uganda to assess compliance of the production conditions of fishery products and to verify corrective measures identified in the 1997 mission; two processing plants are found not compliant; commission requests guarantees in relation to six perceived problems:
    - lack of suspension of plants failing to meet conditions laid out in EU regulation
    - issuing of health certificate for incorrectly labelled products
    - issuing of pre-stamped health certificates
    - lack of routine monitoring for presence of chemicals in fish and water
    - lack of sanitary infrastructure and fencing at landing sites
    - lack of microbiological check tests supporting health certificates
- December 1998 – the two non-compliant plants are removed from the list of approved

establishments; in the same month, the Uganda press reports instances of fish poisoning in lake Victoria

- March 1999 – Based on press reports, a number of District authorities ban fish sales. UNBS notifies the EU that it cannot guarantee the safety of fish exports despite opposition from UFPEA
- April 1999 – EU holds a meeting in Brussels with representatives of competent authorities from Uganda, Kenya and Tanzania to discuss the results of tests; the EU announces a ban of exports of fresh and frozen fish from the three countries
- August 1999 – EU mission to assess resources and capabilities of competent authority in Uganda in relation to control of pesticide residues; mission provides 10 recommendations; EU demands a comprehensive monitoring programme to determine levels of pesticides and sediments from the lake, but country lacks testing facilities. No laboratories could determine pesticide and heavy metal levels in fish, water and sediments on the lake.
- UNBS responds to EU report but does not provide all requested documentation or details
- A private laboratory is established in Kampala – accredited to perform pesticide monitoring tests
- Industry adopts the 'voluntary code of practice' for quality control; DFR revises inspection manual
- Transfer of competent authority from UNBS to DFR
- July 2000 – ban lifted as the EU accepts guarantees that Uganda had put in required guarantees for safety of exports; country qualifies for temporary certification in List II
- May 2001 – Uganda goes back to List I

Box 2.5 European Development Fund - SFP Project

The European Development Fund is supporting the 5-year Project "Strengthening Fishery Product Health Conditions in ACP and OCT Countries", with a budget of EUR56.6m., of which EUR42.9m. is EDF financed. The programme is coordinated by a unit attached to the Centre for Development of Enterprises in Brussels (see http://www.sfp-acp.org). An intervention under this programme was launched in 2004 to provide support to the Competent Authorities in Kenya, Uganda and Tanzania, with activities related to strengthening technical capacity of the inspection and control system, improving laboratory performance, and technical support to industry, including small scale fisheries. The activities of this project (value EUR800,000 over 2 years) have stalled, reportedly due in part to poor management of contractual procedures within the European Commission. Furthermore in Uganda, the activities appear not to address the national strategic needs for improved health controls in the fishery sector (principally the investment environment at landing sites and the establishment of a control system for aquaculture production).

Sanitary and quality standard compliance issues

It is clear that Uganda should continue to invest in an upgraded inspection and control system with a meaningful and scientific approach to ensuring that the evolving food safety conditions of the EU are met. This will mean identifying technical threats to exports currently "off the radar screen" (such as the trematode parasites hazard in freshwater fish and the (undocumented) illegal use of so-called "clear smoke" technology by some nile perch processors). It will require the mobilizing of resources to address these threats, as well as addressing in a more structured and risk-based way, the current concerns such as hygiene and HACCP compliance.

Achieving this is partly a matter of finance, and the creation of UFA would likely result in a significant improvement in financial and staff resources for the Competent Authority functions. The technical capacities of the Competent Authority (DFR) will also need to be significantly upgraded, including recruitment of new staff with appropriate scientific and technical qualifications, and a structured approach to in-service of training of existing staff. In this respect, the planning for UFA should address the need for significant technical upgrade of Competent Authority functions.

However, it also a question of ensuring that policy recognises the national strategic priorities for fishery sector SPS compliance. There are two major requirements which until now have not been adequately addressed. First is the need to upgrade landing sites so that they comply with hygienic standards. Logically, this means that the Competent Authority must ultimately meet its obligation to close down non-compliant facilities, including those landing sites which do not upgrade within a reasonable time frame. This however exposes an inherent conflict of interest (as mentioned earlier) between the developmental and enforcement roles of the fisheries administration. This provides a strong rationale for DFR to withdraw from its developmental/management role at landing sites, so as to be able to meet SPS obligations.

Second, there is a need to establish monitoring and control systems to ensure that aquaculture products meet the food safety requirements of export markets. Until this is done, the incentive to invest in export-orientated aquaculture business will remain limited.

2.7 COMPETITIVE POSITION OF UGANDA'S FISHERY SECTOR

Efficiency in the distribution chain

Anecdotal evidence indicates very high levels of post-harvest loss rates, although there has been no comprehensive study of this issue. Even around the relatively well-developed fishery of Lake Victoria which supplies the majority of the exports, there has been little or no investment in facilities to improve handling and quality and reduce post harvest losses. In general, for Lake Victoria, these are estimated[94] at 5 percent for nile perch (where ice supplies are delivered to landing sites by buyers) and up to 20 percent for mukene and tilapia. The lack of ice supplies at the points of embarkation and landing is a major constraint, particularly to local and regional trade.

Although a small number of processing companies operate landing sites, it is most common that fish is sourced from public landing sites. Processors buy raw material through a range of different routes. These may be: (i) employees or commission agents that operate the company's own trucks; (ii) contracted traders operating with their own truck and/or collector vessel; or (iii) independent traders, who sell on a spot basis at the factory gate or landing site. Processors tend to rely most on contracted traders suggesting a degree of vertical integration.[95] There is a high level of competition for raw material, which means that there is an incentive to source from remote sites, with price adjustments according to access costs. Intermediate prices within the distribution chain are shown in Table 2.9.

[94] Mwikya (2004).
[95] Ponte (2005).

Table 2.9 Average prices received for nile perch (2003)

Different Stages of the Domestic distribution Chain	Price/kg Live weight UGX	US$
Exporters	4,096	2.09
Factories	3,319	1.69
Agents	1,993	1.01
Middlemen	1,600	0.81
Boat owners	1,300	0.66

Source: Nyeko (2004).

In 2003, the average price paid for Nile perch (whole fish) at landing sites was about US$0.7 (prices have reportedly risen slightly since then). Costs and margins related to intermediate traders and agents raise the raw material cost to export processors to around US$1.00/kg. Intermediate traders carry an important risk, that product will not meet export grade and thus not be paid for, or will be paid at reduced rate (for example reflecting lower prices for frozen fish). The margins in the domestic distribution chain therefore reflect both the cost of transport in collecting product from remote locations (in total 572 recorded sites), the post-harvest losses (in non-export grade product) and the associated risk premium.

The domestic distribution systems employed in Kenya and Tanzania are similarly inefficient. Throughout the region there is considerable potential to reduce internal distribution costs, through a better organisation of landing sites. Reducing the number of landing sites will tend to concentrate production, reduce road transport costs, encourage development of auctions, reduce the number of transactions in the chain, improve product quality, and improve tax collection efficiency, all contributing to improved international competitiveness. A competitive advantage will be gained by the first of the 3 riparian countries to bring about these efficiency improvements.

In 2004, air freight rates for fresh fish from Entebbe to the EU by specialised cargo airlines were in the range of US$1.4–1.46/kg of fish fillet-equivalent weight, and scheduled passenger airlines charged in the range of US$1.45-1.81/Kg.[96] These costs were be higher than the ones in Tanzania and Kenya, where charter flights from Mwanza cost US$1.15-1.20/kg for fish in 2004 and scheduled air rates from Nairobi were in the range of US$1.20-1.40/Kg. These differences are due in part to differentials in the cost of aviation fuel: US$0.45/l in Uganda; US$0.39/l in Tanzania, and US$0.34/l in Kenya, largely considered to be due to higher transportation, taxation and distribution costs (see Volume 1, Chapter 6). Therefore for the main export product, distribution costs to Tanzanian and Kenya exporters are some 36 percent and 15 percent lower. (Another study also attributed higher costs to empty space on inbound flights, in addition to higher cost of aviation fuel).[97]

The Civil Aviation Authority estimates that air freight rates can come down by as much as 40 percent through a range of cost reduction and efficiency measures.[98] Runway lighting fees had already been removed, and landing and air-navigation fees rationalized in 2003 (they are now reportedly lower than in both Nairobi and Dar es Salaam). Transport of aviation fuel by lake

[96] Ponte (2005).
[97] FOODNET (2002).
[98] Reported in Keizire (2004).

tanker to Entebbe is also being investigated as a means of reducing fuel costs. However, until such measures as these are fully implemented, Ugandan fish exports are likely to remain at a transport cost disadvantage compared to Kenyan and Tanzania producers.

Although frozen product, exported by land and sea in reefer containers, accounts for only 27 percent of export value of fishery products, Uganda also operates at a greater disadvantage here, due to the additional high cost of road transport to Mombasa (around US$3000 for transporting a reefer container to Mombasa in 2004, corresponding to about US$0.18/kg[99]). Given the lower value of the frozen product (average US$2.53/kg cf. US$3.66 for fresh in 2004), the higher distribution costs affect the competitive position of frozen product more than the fresh. In the future, the industry expects these costs to fall, with the foreseen upgrading of the rail freight link between Kampala and Mombasa. In fact this disproportionate competitive disadvantage was one of the causal factors which prompted Ugandan exporters to develop distribution channels for fresh fish in the mid-1990s. The relative advantage gained at that time has largely been eroded.

These additional distribution costs clearly represent a significant competitive disadvantages to the Ugandan export sector, and they are reflected in the lower prices offered to Ugandan fishers as mentioned earlier.

Market competition for nile perch

Nile perch fillets satisfy a demand for a low cost generic undifferentiated white fish fillet in the main EU market. Until recently it has had no real competition, the Lake Victoria fishery being unique in its productivity of a low cost product which perfectly meets developed country requirements.

Whilst it has replaced cod and haddock as cheap white fish fillet in the North European market, these species have by no means been competitors, since their prices now position them as premium products. Ugandan exporters have competed with Kenyan and Tanzania colleagues, but substantial levels of cross-ownership and common interests in the status quo have resulted in a significant level of complacency in marketing discipline.

However, there is increasing competition from catfish ("basa") fillets from Vietnam aquaculture (Box 2.6). According to Ugandan fish industry sources, increasing supplies of low priced catfish fillets on the EU market have depressed prices significantly, especially for frozen nile perch fillets. Although the Ugandan product has the comparative advantage of being a fresh chilled product, and does not suffer from veterinary drug residue issues, these positive attributes are not highlighted at all in the marketing strategies of the industry. While the competitive position of nile perch is good, it is not unassailable (Table 2.10).

[99] Ibid.

Box 2.6 Vietnamese catfish trade

Vietnamese catfish comprises three closely related species: *Pangasius bocourti*, *Pangasius hypophthalmus* (also known as *Pangasius pangasius*), and *Pangasius micronemus*). The product is farmed in the south of Vietnam, where production from cages in the Mekong Delta is reported to be in the region of 137,000 tonnes in 2003.[100] The industry developed with a strong focus on the U.S. market. Since 2002, this product has suffered from a series of protectionist measures. US catfish farmers successfully lobbied in 2001 for a redefinition of labelling regulations for catfish species, to exclude the Vietnamese product. There was a subsequent preliminary decision by the US International Trade Commission in 2002,[101] ratified in 2003, to class Vietnam as a non-market economy, resulting in imposition of protective tariffs ranging from 38-64 percent. Furthermore, in 2005, U.S. catfish farmers commenced lobbying of the FDA on the basis of food safety concerns in relation to veterinary drug residues. Although they have not succeeded in achieving a federal ban on import, three states have done so. As a result of the development of these trade barriers in their traditional export market, Vietnamese producers have made a strategic decision to target the EU market, and sales there are now increasing, strongly supported by the rise of the Euro against the US$ in 2004.

Table 2.10 Competitive position of nile perch and Vietnamese basa catfish

Marketing position	Nile perch	Vietnamese Basa
Sustainability of production	Capture fishery not sustainably managed	Sustainably managed aquaculture production
Processing technology	Well organized, modern, EU Compliant	Well organized, modern, EU Compliant
Health and hygiene conditions compliance	Non-compliant at level of production/landing sites	Compliant, but some residue control issues
Distribution technology	Mainly fresh	All frozen
Marketing organization	Very weak, no promotion or market development activities.	Strong high centralized, and integrated approach. State supported.

In light of the fact that Uganda operates at a significant cost disadvantage compared to Tanzania and Kenya, as described above, Uganda will be the first loser in a price war, making competition on price the least desirable strategic response. Therefore, it is recommended that the most appropriate response at the level of the fishery enterprises would be to rapidly improve quality through investment in improved distribution at the level of the fishery (that is, at landing sites), and use generic promotional activities to differentiate Ugandan product with a quality image, and as a sustainably-harvested wild caught fish from a pristine environment. It is clear that a more organized approach to generic marketing which highlights these positive product attributes will be required in future, if the Ugandan nile perch is to compete effectively in the global market place.

Market competition for tilapia

Despite the lack of a clearly structured set of policy measures, Uganda's fishery sector is moving rapidly towards investment in tilapia farming. Tilapia presents a completely different set of competitive circumstances to nile perch and hence represents a desirable strategic product diversification. The main market will remain the EU, where there is a small but growing higher value market for this species. Ugandan tilapia (from capture fisheries) in whole or fillet form,

[100] Tung et al (2004).
[101] U.S. International Trade Commission (2002).

fresh chilled, is presently packed and distributed through the same distribution channels as nile perch. Farmed product will use the same channels. The main international competition will be from tilapia producers in S.E. Asia and S. America. Here, Uganda, with similar production costs, may well be in a competitive position with respect to distribution costs to market. There is therefore a very strong competitive rationale for government policies to support the development of a tilapia aquaculture sector focused on export markets. This should take the form of a more business friendly regulatory regime, improved planning and environmental zoning, and financial support for some aquaculture infrastructure investments (see last section on recommendations).

Value added potential

By filleting and exporting fish in a fresh chilled form, Uganda is already exporting a high value-added product because of the premium attached by the market to non-frozen fish. This marketing approach was pioneered by Uganda, as a relatively late entrant to the nile perch business. Opportunities to add additional value through altering the product component of the marketing mix may therefore be rather limited.

A number of proposals[102] have been made for value added processing as means of improving the benefits derived from exports of fishery products. These proposals refer to options such as further processing into more convenient products (retail packs, ready meals, coated portions both breaded and battered).

In the case of ready meal type products, business models are based on a wide product range drawing on a diversified raw material base (different meats and pasta, sauce ingredients). Many raw materials would have to be imported, and there would be no comparative advantage to processing in Uganda. There are also substantive SPS issues (for example meeting export market requirements for animal health conditions and meat product safety) which would require significant advances in regulatory controls. Ready meal processing opportunities are therefore rather limited.

The production of coated fish products needs a high volume of standardised raw material (such as white fish fillet blocks). Nile perch, as a low cost white fish, is ideal for such products, and there may be some export market opportunities for supply to medium income countries (for example South Africa or Egypt). However, controlling processing costs depends on a high volume and highly mechanized processing. There is a question whether these developing markets can sustain economically viable value added operations. Such technologies are therefore unlikely to have an industry wide impact in Uganda, although some niche or regional markets may exist and are being investigated by processing companies.

There may also be some potential for nile perch processors to serve secondary processors more effectively, by preparing and presenting their product in ways which make it more convenient for other processors to use. This may not necessarily add value, but could expand the market. Examples might be pre-portioned fillets for use in ready meals, or plate frozen fillet blocks for production of generic fish fingers. Certainly supplying raw material inputs to value added food processors located in regional markets such as Egypt and South Africa would appear to have some potential a first step towards value added processing. Some exporters are known to be investigating such opportunities.

[102] For example, Avasarala (undated).

2.8 CONCLUSIONS AND RECOMMENDATIONS

Uganda's fishery sector is facing a complex set of opportunities and threats which demand a suitable policy response to ensure their successful navigation. This is summarized in the SWOT analysis (Table 2.11) which focuses on the main strategic issues highlighted in the chapter.

Future prospects for fishery product exports

Although the policy response of GOU has been adequate in terms of broad objectives, the needs of the sector and its major stakeholders have not always been recognized in the design and implementation of the policy framework. There has not been adequate policy analysis by Government or development partners. Furthermore, where policy is sound, it has not been implemented. The result is that despite the application of significant resources to the fisheries management problem, there is no guarantee of sustainability of the capture fisheries which underpin current exports, landing sites continue to fail to meet even basic standards of hygiene, and aquaculture, which has great potential to underpin future export growth, has no clear development plan.

This lack of policy coherence is compounded by ongoing government intervention in essentially private sector activities (investment in landing sites and hatcheries). This failure to recognize the potential of the market to generate desirable investments is inhibiting the emergence of sustainable and globally integrated business systems. Whilst the proposal for UFA will address some of the policy failures, altering the Government institutions is not a substitute for policy, and will not directly impact within in an adequate time frame on the critical and immediate needs of the sector. There is therefore a need for the rapid development of implementation plans with specific actionable and costed measures under the framework of the FSSP.

Following from the SWOT analysis, the policy approach to fishery export should aim to:

- **ensure sustainable exploitation of capture fisheries**
- **develop alternative supplies and diversified species of raw material from aquaculture**
- **improve quality, reduce losses and avoid fish bans by ensuring landing sites are rapidly upgraded to meet hygiene requirements**.

This section develops broad proposals for a new approach to these issues for implementation. It is noted that the current proposals for institutional reform and the creation of the UFA underpin many of the policy measures proposed. However, institutional reform is not a substitute for sectoral policy, and implementation of measures should not be held hostage to the outcome of this process.

Table 2.11 SWOT Analysis

SECTOR	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
CAPTURE FISHERIES	Substantial, highly productive fishery resources	Ineffective resource management due to a) inadequate research b) weak MCS c) lack of suitable policies Poor hygiene conditions at landing sites Inefficient marketing and distribution chain	Sustainable management secures future fishery revenues Improved export yields through reduced post harvest loses Increased exploitation of the mukene fishery (Lake Victoria) and tilapia fishery (Lake Victoria and other lakes) for regional and international trade.	Collapse of nile perch stocks in Lake Victoria Loss of market due to new EU fish bans Reduced prices to fishers due to introduction of levy; increase in "smuggling"
AQUACULTURE	Ideal environmental conditions for aquaculture water resources/ climate Access to markets through existing processing and marketing channels	Inadequate regulatory regime, especially lack of veterinary drug controls and residue monitoring	Investment by input suppliers (feed and monosex tilapia supply) will stimulate sector growth (lake and land based aquaculture)	Social conflicts inhibit development of lake based cage culture
PROCESSING	World class processing sector, compliant with hygiene and quality demands	Substantially reliant on one product and one market Lack of competitiveness due to high raw material costs	Product diversification based on supplies from aquaculture (tilapia) Premium prices due to superior quality	Loss of supplies due to fishery collapse Loss of market due to new EU fish bans
MARKETING	Well established and efficient marketing links in main global fish markets, particularly EU	High distribution costs for nile perch cf. to other producers	Growth in export values maintained by i) improved quality from upgraded hygiene conditions at landing sites, resulting in better export yields and prices ii) development of aquaculture to supply international and regional markets iii) generic promotion	Nile perch sales undercut by fresh chilled aquaculture species from SE Asia

Ensure sustainable exploitation of capture fisheries

In the absence of an irrefutable scientific justification, there is a clear case based on existing empirical evidence of resource condition, for a moratorium on increases in licensed capacity. The justification can be based on the precautionary principle outlined in UN Code of Conduct for Responsible Fisheries Section 6.5:

> *States and subregional and regional fisheries management organizations should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking account of the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment.*

This requires, first, the establishment of community management mechanisms involving the BMUs, since this provides the only feasible and politically justifiable means of rights allocation. Fishing opportunities, in the form of a fixed number of licences, should be set at the national level, based on scientific advice. Thereafter, the allocation to districts, sub-counties, BMUs and individual fishers should be undertaken by the community management structures. This concept of co-management is clearly expressed in the National Fisheries Policy and within the Fisheries Management Plan for Lake Victoria. To be effective it requires the development of strong and functional BMUs which, however, the Government has to date not been effective in creating (see next subsection).

There is also a need for a much clearer regional policy initiative to bring fishing effort within sustainable limits through capacity limits. The proper mechanism is through implementation of the LVFMP which at present does not address fishing capacity limits and would need to be amended through the inter-governmental processes set out in the LVFO constitution. A Regional Plan of Action (RPOA) of the LFVO was adopted by the Entebbe Declaration of the EAC Secretariat in February 2005, and sets out the intention for "determining, negotiating and agreeing on the fishing capacity allowable by Partner States to limit access and reduce pressure on lake fisheries". The RPOA implementation is being developed in collaboration with FAO, and a regional meeting was held in December 2005. There remains an urgent need for the RPOA to be translated into an agreement on fishing capacity limits and how these are to be allocated. GOU should draw on existing technical assistance projects under the current EDF programme to promote this regional approach.

Failing the development of a regional approach within the short term, GOU could consider a unilateral approach on setting capacity limits. This would be within the frame of the "Convention for the establishment of the Lake Victoria fisheries organization". Article XII - National measures states: "*Subject to paragraph 1 of this Article, nothing in this Convention shall be interpreted as preventing a Contracting Party from exercising fully its sovereign powers in respect of any of the subject matters of this Convention. In particular, each Contracting Party shall remain free to adopt national laws and regulations more stringent or extensive than those required to fulfil its obligations*".

As mentioned, Uganda needs to be able to promote non-price benefits of its fishery product exports given the more exposed competitive position of Uganda in the international market (because of higher costs). Quality is one such aspect; another is the sustainability of the fishery

sector. A demonstrable adoption of the principle of responsible fishing would provide a powerful marketing advantage for the fish export sector. It would also likely result in significant international pressure on the other riparian countries to follow suit, and could catalyse the regional approach.

Empowerment of BMUs

Current policy fails to harness the investment and management capacities of the private sector. Ensuring a framework for the allocation of private capital following market principles would significantly reduce, if not eliminate, all of the above problems. The following policy measures for fish landing sites are proposed for developing such a framework.

1. **Leave development and management of landing sites to the private sector**
   Government should publicly withdraw from development of facilities at landing sites (existing commitments excepted). Landing sites should be regarded for what they are - business units in the distribution chain for fish. As such they can sell services (landing, auctions, banking, credit) and goods (fishing inputs such as ice, fuel, gears etc). To ensure equitable management and distribution of benefits, the business assets should be legally owned and managed by the stakeholder communities, that is, BMUs. With 60 percent of the Ush350 m. in value-added generated by export fishery going to the fishers (Table 2.5), there should be sufficient money to provide investment finance for improvements in landing infrastructure.

2. **Re-allocate public funding for fisheries infrastructure**
   Government infrastructure funding should be re-focused on genuinely public goods and services, such as rural electrification and road schemes serving fisheries communities. In the broad sense, landing site development would therefore be a genuine public-private partnership (PPP) with the boundary between the two at the gate of the landing site. Investment by communities at landing sites could be given an incentive by the offer of this type of public infrastructure project.

3. **Beach Management Units should be meaningfully empowered with legally enforceable rights**
   Without enforceable rights at law, BMUs will remain artifacts of the bureaucracy. BMUs should be encouraged to acquire legal personality through an appropriate form of business, such as company limited by guarantee. The incentive is that properly constituted BMUs meeting appropriate conditions should be offered legally enforceable land use rights at landing sites (for example through a long lease issued by the Local Authority). Where there are suitable cage aquaculture sites within a district council, the adjacent BMUs could also lease lake bed anchorage rights[103] for cage based aquaculture, develop the anchorage and then sub-let to aquaculture investors, thus ensuring that fishery communities have a stake in lake-based aquaculture development. Term of lease for lake shore and lake bed should be at least of sufficient duration to permit a return on major capital investment (5 to 10 years). The lease may have restrictive covenants regarding alternative uses, assignment etc. to address concerns regarding loss of control of the lake shore and bed. Since the leases would have commercial value they could be used as loan collateral if required. BMUs would therefore acquire both the legal rights and the means to treat (contract, sue and be sued etc).

[103] Lake bed usage rights in Uganda have not been investigated by this study

4. **Beach Management Units should be commercial enterprises**
   As bodies corporate, BMUs would be free to charge users of the landing sites market rates for goods and services, in competition with each other. Successful sites will attract landings and, crucially buyers. Well-managed landing sites in viable locations will survive, others should be allowed to fail. Consolidation of landings to commercially viable levels is likely to attract a number of buyers to each site, breaking the typical monopsonies at landing. Competition between buyers would be conducive to the development of auctions, processors would be free(er) to buy directly, and intermediate traders would be forced out of the export supply business, thus improving prices to fishers and margins to processors. The supply chain would shorten, with significant improvements in quality, traceability and reduction of post harvest losses, further encouraged by the availability of ice to fishers and traders at the landing sites. Efficiency gains in the distribution chain would result in a direct improvement in export competitiveness of Ugandan fishery products, and improved prices for fishers, reducing the incentives for so called fish smuggling. Fish trade across lake borders should then be de-criminalised and MCS efforts focused on fisheries management, rather than fiscal, offences.

5. **Revise and streamline local government finance from the fishery sector**
   Local Government, especially in those regions adjacent to lake shores, relies substantially for income on levies extracted from the fishery sector. The present inefficient tax collection arrangements are likely to continue, even though an additional export levy of 2 percent will be introduced, collected from export processors. Whilst this is a pragmatic approach in the short term, these export fishing and processing sector will subsidise domestic and regional trade. In the longer term a more equitable and transparent taxation of the fishery sector should be considered in which the export processing levy could be replaced with direct payments from the BMU to the District Council. Payments would be in the form of the site rental as set by the lease agreement, and a landing levy (passed on for the financing of the proposed Uganda Fisheries Authority). The base level would be set centrally (as required for the UFA) with an additional local levy imposed and determined by the District Council (which could vary from District to District). Local Authorities would be discouraged from excessive tax extraction due to inter-District competition to attract more landings and thus optimize revenues. Tax collection efficiency and leakage would improve significantly, providing the incentive for Local Authorities to adopt this approach.

6. **Government support for fisheries**
   As an exception to the general non-intervention policy Government could chose to subsidise disadvantaged landing sites, for example those communities highly dependent on fisheries[104] which suffer from additional costs due to remoteness or other negative structural features.

Clearly, there are many issues to be explored and potential barriers to be overcome in the development and implementation of the new approach proposed above. It is therefore proposed that a Landing Site Pilot Project be launched by MAAIF, with view to testing the measures in a small number of suitable landing sites in receptive Districts. This should investigate best means of incorporation, prepare draft documentation (memoranda and articles of association, model leases etc), assess financial viability, assess levy issues, determine capacity needs for local authorities and BMUs and monitor investment and business performance in relation to publicly managed sites. The lessons generated would then be incorporated into a national roll- out of the approach.

[104] This approach would require a sub-regional fisheries policy, under pinned by a dependency study, currently non-existent.

Aquaculture development

There is undoubted potential for aquaculture development in Uganda, providing opportunity to maintain fish supplies for domestic, regional and international markets, and to significantly contribute to poverty reduction. It has been suggested that potential may exist for cage culture in lakes (including Lake Victoria and crater lakes) and rivers (including the Nile) and for land-based culture systems in most regions. GOU has indicated its strong support for this development, most recently as a signatory of the 2005 Abuja Declaration on Fisheries and Aquaculture in Africa.[105]

Aquaculture, as with other forms of agricultural development, will inevitably have environmental and social impacts. It is impossible to ensure that such a development is free of all impacts. It is however important to manage the impacts to ensure that:

- There are no irreversible negative environmental impacts
- Other negative environmental impacts are minimized or compensated for
- Developmental models are socially inclusive, participatory and ensure an equitable distribution of benefits, particularly where there is potential for conflict with capture fishing communities (for example lake-based systems)

Small-scale extensive aquaculture (Level 1 activity) should not be considered as a principal source of raw material for export development aimed at international markets. Production technologies here are too inefficient to be internationally competitive, and it is very difficult to control large numbers of small producers from a health and hygiene viewpoint. Vietnam's problems described earlier are a case in point. Small scale production does however have a major role to play in serving national and, where available regional markets. Export potential is best satisfied by more heavily capitalized production systems (semi-intensive or intensive) which can be effectively managed to produce at a competitive cost, and to meet the food safety and quality demands of the international market. This suggests that the national aquaculture development strategy should be two-pronged, since there are different development needs according to the scale of operation. It is expected that this approach will be further developed in a forthcoming aquaculture study to be commissioned by MAAIF.

Whilst present policy is to support aquaculture development, there is a need to prepare and implement specific measures to deliver this support. Although some initiatives have already been taken (for example the promulgation of the 2003 Aquaculture Rules) these measures are piecemeal and not coordinated. Clearly, the private sector should, and will be, the engine for growth in this sector. However at present, investments are ad hoc at the discretion of individual land owners. There is no coordination of investment, with the result that benefits of concentration and cluster development in the most suitable regions will not be optimized. At present there is no clear national development plan for aquaculture. There is a need for a national approach, for which the following measures for aquaculture development are proposed:

1. **Leave aquaculture development to the private sector**
   Investments in production facilities (hatcheries, feed mills, grow out farms) should be entirely private sector activities. Government intervention at any level provides a disincentive to the private sector investment by creating publicly financed competition to potential investors. There is no evidence from any other region that public investment, particularly in hatcheries, stimulates aquaculture development. In this light, proposals for the development of public funded hatcheries and demonstration centres contained within the ADB fisheries

[105] Adopted at the Fish for All Summit, Abuja, Nigeria, 25 August 2005.

development project need to be reconsidered. These funds would be better channelled into: (i) supporting applied and adaptive research in collaboration with the private sector and dissemination of the results, using the development model being applied within the USAID FISH Project; (ii) providing credit, with associated technical assistance, particular to hatchery investors, using the development model instrumental in Egypt's successful development of tilapia aquaculture industry; and (iii) upgrading aquaculture training facilities (for example the Fisheries Training Institute could develop an aquaculture training school).

2. **Revise aquaculture rules for a simpler approval system**
   The number of types of permits should be reduced, and conditions for award of permit more clearly defined. Also, movement permit requirements should be abolished, and new controls established for wild fry collection, import of live fish, and for fish diseases.

3. **Define aquaculture development zones**
   GOU should support the execution of a aquaculture mapping and land-use planning survey (which can be mainly based on remote sensing data sets) with a view to identifying regions most suitable for aquaculture development (Aquaculture Development Zones – see below) as a means of encouraging investment. With respect to potential for cage aquaculture on lakes, this should be extended to a lake use mapping exercise to include identification of potential aquaculture sites (as well as other uses – tourism, fishing, transport, fish breeding grounds). Aquaculture should be one of the sectors considered within the remit of the Presidential Taskforce on Country Zoning Strategy for enhanced agricultural production for exports.

4. **Improve and rationalize national training provision**
   Aquaculture is taught as part of the Diploma in Fisheries at the Fisheries Training Institute and also as part of the Degree in Fisheries and Aquaculture at Makerere University. Neither institution has access to practical training facilities (students visit the Kajjansi Aquaculture Research Station for practical sessions), and the syllabus would benefit from revisions to reflect national strategic priorities (for example monosex tilapia, feed formulation, pond management, water quality monitoring, fish health etc). The ADB Fisheries Development Project could be employed to provide funds for upgrading aquaculture training provision. There is a need to study existing facilities in greater detail and prepare specific proposals in this respect.

5. **Upgrade veterinary drug controls and residue monitoring plan**
   There is a need to prepare the regulatory framework for the use of veterinary medicines in aquaculture to meet EU requirements and ensure that Ugandan aquaculture products can be sold in this market. Responsibility for approvals of veterinary medicines rests with the NDA under MOH, and responsibility for on-farm controls should be allocated to DFR as the Competent Authority. New regulations will be required. A residue monitoring programme (sampling and laboratory analysis) will need to be prepared to ensure that the controls are effective, which will require improvements to laboratory technical capacity. Again, the ADB Fisheries Development Project could be well directed to this purpose.

The introduction of ADZs could be a crucial tool for establishing a favourable investment climate. The identification of ADZs would be on the basis of meeting suitable environmental criteria for aquaculture (climate, water supply characteristics, soil conditions, production technology – both ponds and cages). ADZs could be the focus of:

- public investments in aquaculture and rural infrastructure (such as water supply and drainage canals, sluices, roads, rural electrification schemes)

- Environmental Impact Assessments which could be undertaken on a zonal basis, rather than individual investment basis. Aquaculture investments within certain parameters could be allowed without an EIA (Environmental Impact Assessment) since this would have already been undertaken. This type of pre-approval process could be undertaken by DFR (or UFA) thus enabling a streamlining of the permit process, promoting more rapid development.
- Aquaculture development projects which would support development of systems for provision of credit, technical services and aquaculture inputs, all of which will be more sustainable due to the concentrated nature of the developments.

The first step towards developing these measures would be a national aquaculture mapping exercise. Discussions with national experts who have considered this approach[106] suggest that there is adequate geographic information system (GIS) remote sensing data available in different institutions to allow a substantial degree of mapping to identify ADZs to be undertaken now. Field studies may however be required to complete the exercise. A pilot study should therefore be launched to assess its feasibility. The map and associated plan would be a powerful tool for promoting aquaculture investment by eliminating much of the investment risk, time and costs associated with site identification.

[106] Nelly Isyagi, Aquaculture Research Station, Kaijansi, and Wilson Mwanje, DFR, MAAIF.

3. HORTICULTURE AND FLORICULTURE

3.1 BACKGROUND

Floriculture has emerged as one of the main non-traditional exports from Uganda, estimated to be around US$37m. in 2005, which makes it the third largest non-traditional export after gold and fish (Table 3.1).[107] Floriculture exports are dominated by cut-flowers (virtually all cut-roses), estimated to be around US$27m. in 2005, with the remainder being made up of mostly chrysanthemum cuttings which are estimated to be just under US$10m. Horticulture exports are much less important, with fresh fruits and vegetable exports estimated to be around US$6m. in 2005 (US$1m. of which are estimated to be cross-border, or "informal" trade), and processed fruits (mostly dried fruit) exports estimated to be a round US$360,000 in 2005.

Table 3.1 Value, weight and employment[108] of Ugandan horticultural and floricultural exports, 2005

Product	FOB value (US$ '000)	Unit value (US$/kg)	Weight (tonnes)	Employment
Floriculture				
Cut-flowers	26,900	5.85	4,600	5,000
Cuttings	9,900	9.00	1,100	1,000
Horticulture				
To Europe	5,000	1.00	5,000	1,666
Cross-border	1,000	0.17	6,000	600
Processed				
Dried fruit	300	3.00	100	650
Fruit juice	60		70,000 litres	
Total	**42,160**			**8,916**

Source: Consultant estimates.

The majority of floricultural exports are destined for Europe. With respect to fruit exports, Kenya was the most important destination in 2004, followed by the U.K., then Germany, Belgium, and UAE (Table 3.2). By far the most import fruit export in 2004 was bananas; only very small amounts of pineapples and water melons were exported and most were to Kenya. Most of the vegetable exports were destined for the U.K., followed by Kenya, and Belgium, Netherlands and Rwanda (Table 3.3).

[107] The data presented in this table is based on consultant estimates. There is a serious issue with respect to the inconsistency of horticulture and floriculture export data from different sources in Uganda as discussed in Sergeant (2006), background paper for the DTIS.

[108] Much of the employment used for horticultural exports is casual and seasonal and it is therefore difficult to calculate the number of people employed. However, some simple rules of thumb were used. One trader/farmer who exported just over 150t/year employed 15 people and collected product from 20 out-growers. Assuming on average two family members working on each outgrower farm, one full-time job would be created for each tonne exported. In the case of regional exports, because most of the exports are matooke, it is assumed the equivalent of one full-time job per 10 tonne (which is the rule of thumb for matooke in Uganda).

Table 3.2 Main destinations for fruit exports from Uganda, 2004

Destination	Export value (US$)	Main products and export value (US$)
Kenya	535,000	Bananas (470,000), pineapples (31,000), watermelon (24,000) and other melons (20,000)
United Kingdom	446,000	Bananas (326,000), other fruit (106,000)
Germany	75,000	Other fruit (48,000)
Belgium	56,000	Bananas (35,000)
UAE	52,000	Pineapples (28,000)
Others	236,000	
Total	1,400,000	

Source*:* Accord Associates, based on UEPB supplied data.

Table 3.3 Main destinations for vegetable exports from Uganda, 2004

Destination	Export value (US$)
United Kingdom	**1,329,000**
Kenya	**189,000**
Belgium	**181,000**
Netherlands	**162,000**
Rwanda	**116,000**
DRC	**60,000**
Oman	**57,000**
Others	**206,000**
Total	**2,300,000**

Source: Accord Associates, based on UEPB supplied data.

Floricultural exports to Europe

Cut-flowers. Interest in developing floricultural exports started in the early to mid-1990s when a few entrepreneurs thought that growing roses could be a profitable investment. Many of these first investors followed the agronomic recommendations used in the main rose growing areas in Kenya, for example for the Naivasha area which grew predominantly "intermediate" rose varieties. It was hoped that the warmer Ugandan weather would give higher yields and generate greater profits than Kenya. Unfortunately, while yields were much higher, the quality was greatly inferior (stems and buds are smaller). Many of these early investments had serious financial problems and some went out of business. There then followed a significant investment by the industry and the United States Agency for International Development (USAID) financed Investment in Developing Export Agriculture (IDEA) project as well as the local growers to identify varieties that were more suitable to the Ugandan climate. It was discovered that the Ugandan climate was suitable for growing sweetheart roses. The growers then invested in sweetheart varieties and started to make acceptable returns on their investment.

Perhaps the biggest factor in developing the Ugandan floricultural export industry was the recognition that it had to identify crops/varieties that were better suited to the warmer Ugandan night temperatures. In particular, due to the differences in altitude, the average night temperatures are about 8°C[109] warmer in Kampala than in Kenya and Ethiopia,[110] which makes a

[109] See Sergeant (2006), Appendix 2.1 for meteorological data.

big difference to crop growth and development rates. There are parts of Uganda that have altitudes comparable to the Kenyan and Ethiopian rose-growing areas, for example around Fort Portal, Kabale and Mount Elgin, but these are a considerable distance from the airport at Entebbe and would have created considerable logistic problems (and associated higher costs) if these higher regions had been developed first.

Currently there are about 170 hectares (ha) of greenhouses that are producing flowers and some of the growers have plans for significant expansion. There are about 15 companies producing roses, which employ about 5,000 people.[111] All the roses are grown by large-scale commercial farmers who have made a significant investment.

The cut-flower industry is almost entirely focused on roses; there have been some efforts at diversification and very small areas of gerbera are grown commercially. There have been suggestions that chrysanthemum and some tropical flowers (for example anthurium, heliconia and strelitzia) could be grown, but these flowers have a major disadvantage of very high freight cost per stem.[112] Comparative advantage for these flowers lies with countries with much lower freight rates.

Table 3.4 Value and weight of Ugandan cut-flower exports

Year	Value '000 US$	Volume tonnes	Av. Price USD/kg
1995	3,610	721	5.01
1996	6,110	1,222	5.00
1997	8,650	1,792	4.83
1998	7,705	1,541	5.00
1999	9,950	2,000	4.98
2000	11,070	2,594	4.27
2001	10,932	3,069	3.56
2002	14,095	3,820	3.69
2003	18,668	4,424	4.22
2004	23,470	4,640	5.06
2005	26,900	4,600	5.85

***Source**: ADC/IDEA & UFEA*
***Note** - 2005 data estimated in Oct 2005*

The cut-flower industry has been clustered in the Kampala-Entebbe area, with most of the short-term expansion expected to be in that area.. Another cluster may be emerging in high altitude areas where the cooler temperatures allow for the growing of intermediate rose varieties. One farm has received the necessary permissions and support from Government agencies and hopes to establish a rose project in the Ntungamo area. The first greenhouses will be built by the end of 2005 and exports will start by mid 2006. By the end of 2007, it is hoped that the site will be producing from 20 ha and employ in excess of 600 people. Two other companies hope to start producing near to Fort Portal. Encouragement of these initial developments would be important because their success would encourage other investments; this will be addressed later on in this chapter.

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[110] In the last two or three years there have been very significant investments in the Ethiopian cut-rose industry.

[111] In Uganda a good rule of thumb is that about 30 people per hectare are required to grow roses.

[112] Because a chrysanthemum flower has to be harvested when the flower is open, the packing rate per box is very low.

The key factors in successful rose production are growing the right type of flower for the climate and the quality of management, both senior and middle positions. Good producers in Uganda should be getting yields of 350 stems/m², selling at US$0.055/stem[113] and making a margin of about US$7/m². In contrast, good Kenyan rose growers expect intermediate varieties to yield 200 stems/m², which sell at US$0.12/stem and make a margin of about US$11/m². Therefore, given the higher profit margins on intermediates and t-hybrids, any potential investor in Kenya will not target production at lower altitudes to grow sweethearts. This also explains why the Ugandan rose producers want to grow intermediate varieties at high altitude. Also, only good Kenyan producers make margins of US$11/m², with many making much less and it is well-known that some are even in financial difficulties (due to poor management and high debt levels).

Cut-rose exports to Europe are dominated by Kenya, whose exports have grown dramatically from US$25m. in 1995 to US$200m. in 2004 (Figure 3.1). Zimbabwe's cut-rose exports to Europe were similar to Kenya's in 1995, but they have only grown slowly to the early 2000s and are now regressing due to a combination of political problems and climate limitations. Cut-rose exports from India, Zambia, Tanzania and Uganda were all virtually zero in 1995. Such exports from India first increased then fell due to issues of climate and competitiveness caused by high freight rates. Zambia and Tanzania both made reasonable progress, but both are now falling. In contrast, Uganda has continued to make steady progress and has taken the market share from these other small suppliers of cut-roses. This is due to its superior all-year-round climate for sweetheart roses which has given it a competitive edge over Zambia, India and Zimbabwe. The advantage it has over Tanzania is that Uganda's industry is much more cohesive, which enables it to gain economies of scale especially in response to air freight capacity and rates.

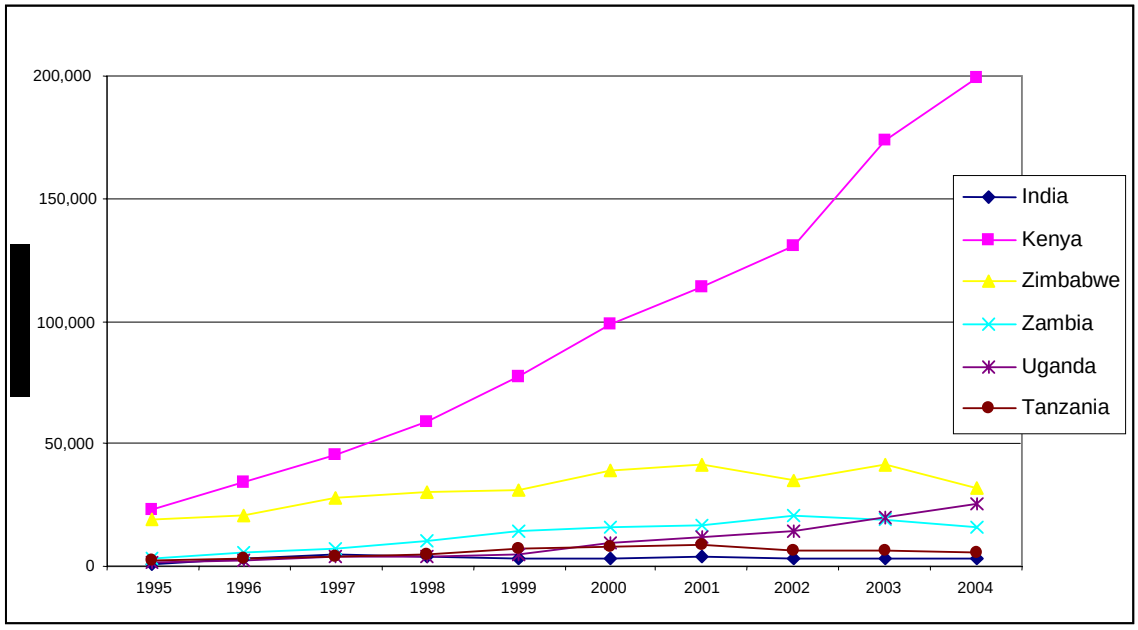
Cuttings. Traditionally, chrysanthemum cuttings for the European market were supplied by European-based producers, for example Southern Spain or the Canary Islands. As labour costs increased, production moved out of Europe to South America, South Africa and East Africa. The first trials in Uganda on chrysanthemum cuttings were carried out using an IDEA research grant in 1996. Uganda's warm climate and location on the equator resulted in high cutting yields throughout the year, which gave it very significant comparative advantages over the other non-traditional producers.[114] 3 out of the 4 main European chrysanthemum breeders soon invested in Uganda and quickly a significant export industry became established (Table 3.5). It is estimated that about 35 ha of greenhouses are used to grow cuttings and almost US$10m. worth of cuttings will be exported by the three companies. In addition, the industry has created about 1,000 jobs.

Standards. The Ugandan floricultural industry has made excellent progress in the last five years in meeting the standards demanded by the main importers in Europe and has not encountered any problems with meeting SPS standards. Most of the exporters have complied with the ecological and social standards demanded by the EU importers. These include the Milieu Project Sierteelt (MPS) certification, Euro-Retailer Produce working group's Good Agricultural Practices (EurepGAP) certification, as well as International Organisation for Standardisation (IOS) accreditation. Other global standards that UFEA is encouraging its members to achieve include the Flower Label Programme and Fair Flowers and Plants, both of which signify compliance with social and environmental standards.

[113] All prices in this paragraph are quoted in "free on board" (FOB).

[114] Being located on the equator gave reasonably constant yields throughout the year, which gave it advantages over South American countries and South Africa and the warmer climate resulted in a yield advantage over Kenya and Tanzania.

Figure 3.1 Value of cut-rose imports from various countries into Europe, 1995 to 2004



Source: Accord Associates based on Eurostat.

Table 3.5 Value and weight of Ugandan cutting exports

Year	Value '000 US$	Volume tonnes	Av. Price USD/kg
1995	0	0	
1996	120	14	8.57
1997	1,120	133	8.42
1998	2,340	224	10.45
1999	3,510	352	9.97
2000	3,540	430	8.23
2001	4,974	641	7.76
2002	7,031	795	8.84
2003	7,863	874	9.00
2004	8,560	951	9.00
2005	9,900	1,100	9.00

***Source**: ADC/IDEA & UFEA*
***Note** - 2005 data estimated in Oct 2005*

Horticultural exports to Europe

Horticultural exports to Europe have grown significantly since 1991, but the increase has slowed since 1999 (Table 3.6). Interviews with exporters suggested that the total tonnage and value of horticultural exports to Europe in 2005 are probably very similar to the 2003 levels. It is likely that the exports of hot peppers have increased, but the value of pre-packed product has declined. Therefore, it is estimated that the current level of horticultural exports to Europe is probably no more than 5,000 tonnes/year, worth about US$5m.

Traditionally, most of the exports are to the UK wholesale markets for sale to Ugandan and ethnic population. The majority of these exports are matooke (Table 3.7). There have been considerable efforts to diversify the range of horticultural exports and to enter the mainstream

European markets. Many of these efforts at diversification have failed, but recently hot peppers (or Scotch Bonnet peppers) have become successful and are now the most valuable horticultural product exported to Europe. The success of hot pepper production is because of its higher unit selling price than other products, rendering it less affected by increases in freight rates. After matooke and hot pepper, okra is the next most important horticultural export, but it is low-value. There have been attempts to add-value to some of the vegetables such as okra by producing pre-packs for the EU supermarkets, but these have not yet been successful. Exports of green beans and fruits other than bananas are virtually negligible.

Table 3.6 Horticultural exports to the EU and cross-border trade

	Exports to the EU			Cross-border trade		
year	Value '000 US$	Volume tonnes	Av. Price USD/kg	Value '000 US$	Volume tonnes	Av. Price USD/kg
1991		345				
1995	630	792	0.80			
1996	1,420	1,518	0.94			
1997	2,050	2,153	0.95			
1998	2,300	2,874	0.80			
1999	3,280	3,280	1.00			
2000	3,650	3,500	1.04			
2001	2,961	3,028	0.98	600	1,500	0.40
2002	3,507	3,544	0.99	930	2,539	0.37
2003	4,553	4,227	1.08	774	5,816	0.13
2005	5,000	5,000	1.00	1,000	6,000	0.17

Source *- IDEA & Accord Associates*
Note - *2005 data were estimated*

Table 3.7 Value and volume of horticultural exports, 2003

Product	Value '000 US$	Volume tonnes	Av. Price USD/kg
Matooke	883	982	0.90
Apple banana	178	182	0.98
Hot pepper	1,332	904	1.47
Green chilli	205	170	1.20
Beans	10	17	0.60
Okra	456	477	0.96
Passion fruit	28	14	1.98
Pineapple	113	143	0.79
Others	1,380	1,339	1.03
Sub-total	4,585	4,228	1.08
Cross border	774	5,816	0.13
Total	5,359	10,044	0.53

Source *- IDEA*

Kenya's significant horticultural export industry[115] has often been presented as an example for Uganda to emulate. However, Kenya has very significant comparative advantages over Uganda.

[115] In 2004, Kenya exported 88,000 tonnes worth almost US$180m.

First, the climate around Nairobi is much more suited to growing the temperate fine vegetables (for example green and runner beans, mangetout) that are consumed by the indigenous population in Europe. Secondly, there is a much bigger large commercial farming sector which has the management and financial resources to give the critical mass needed to establish a successful horticultural export industry. Finally, Kenya has over 40 years experience of horticultural exports to build on its comparative advantages and establish a very competitive and innovative industry. Even if Uganda had plenty of large-scale commercial farms, which it does not, the climate around Kampala and Entebbe is too warm to get good yields and quality of temperate crops. The high altitude areas in the east and west of the country are too far away from the airport to facilitate the establishment of a significant horticultural export industry.[116]

In the early 1990s there were seven companies exporting vegetables. These companies bought produce from small-farmers and exported it to EU-based buyers. The exporters had very little in the way of infrastructure, so the field heat could not be removed, the packaging was very rudimentary and there was virtually no added-value. There were no formal contracts between the growers and the exporters, the exporter purchased produce from farmers when the importer placed an order. If the farmer could not sell to an exporter, it would have to be sold on the local market. This traditional marketing chain was not conducive to building long-term relationships. Farmers often complained that they were not paid fair prices by the exporters, while exporters complained that the quality was variable or the importer did not honour price promises. The lack of formality and contracts (or agreements) in the chain means that all too often someone in the chain is disappointed and most frequently it is the farmer who has product that cannot be sold at the price that was expected. The only European-market outlet for this type of product is the wholesale markets. The low quality and lack of traceability means that the larger supermarkets cannot be accessed. The EU wholesale market is a segment that is small and declining, with most of the exports from Uganda retailed to Ugandans living in the UK. Therefore, the opportunities for traditional Ugandan horticultural exports are rather limited.

Even though the exporters formed an Association, the Horticulture Exporters Association of Uganda (Hortexa), the members have not succeeded in developing a successful export industry. Some of the companies that were trading in the early 1990s are still exporting to wholesale markets. Other traders have also started to export, but most of them are still small, exporting at most 200 to 250 tonne per year (no more than US$300,000/year). Some of the traders have their own farms, but most rely on small-farmers. Some of these exporters are receiving support from the EU's Pesticide Initiative Programme (PIP) to help their farmers become EurepGAP accredited. This should enable them to expand their market opportunities as well as keep existing outlets. The biggest horticultural exporter is Icemark, which expects to export 900 tonnes in 2005 (worth about US$1.4m.).[117] This company is the biggest air cargo operator at Entebbe and it carries a considerable portion of the country's horticultural exports. It both grows its own produce as well as buys in from small-farmers. As yet, it is not EurepGAP certified but it hopes to keep expanding by concentrating on hot peppers and chillies for the wholesale markets in European countries other than the UK and the Netherlands, the traditional outlets for most of Uganda's exports.

[116] If a significant sized horticultural industry had already been established around Kampala/Entebbe with significant support services, then it would have been easier to diversify to areas further away from the international airport. The Ugandan floriculture already has a sizeable industry focussed around Entebbe airport, and it is therefore able to consider diversification away. However, it is extremely doubtful whether that could have been successful if the industry had started at Fort Portal or on the slopes of Mount Elgin.

[117] Icemark is responsible for 25 percent of Uganda's horticultural exports.

There have been a number of attempts by companies to break away from growing and exporting low-value horticultural crops and target higher-value exports for a broader European market base. In the early 1990s, a company called Ziwa grew a range of vegetables such as asparagus, green beans and some Asian vegetables using Kenyan management and technology; it subsequently went out of business. A considerable investment was made over a number of years by Mairye Estates in trying to export vegetables. It first tried to grow temperate crops such as beans and mangetout near Kampala, then it tried growing beans and mangetout near Kabale and, more recently, it has tried growing a range of Asian vegetables (for example okra and chillies) and baby vegetables. Mairye benefited from a grant from the Dutch Government (the grant was part of the Programma Samenwerking Opkomende Market (PSOM)[118]). Despite these considerable efforts and investments, Mairye Estates have not been successful and are concentrating their efforts on floriculture where their profit margins are much more successful. The yields and quality of the temperate vegetables grown around Lake Victoria were not good enough to compete with Kenyan production and the infrastructural and logistical problems associated with production near Kabale eroded any potential margins. When they tried growing sub-tropical crops, they could not compete with the much lower freight rates out of West Africa (which are almost US$1.00/kg cheaper than East Africa). Mairye tried growing crops both on their own farms and using small-farmers. Finally, in November of 2005, Mairye Estates took the strategic decision to stop vegetable exports having realised the margins are too small to develop a significant enterprise.

Another interesting effort at horticultural diversification is the production and export of fresh herbs. In 2004, Melissa Flowers was awarded a grant under the PSOM programme to develop this concept. Currently, it has about 2 ha under production in greenhouses. It initially had some problems breaking into the European market and it had to develop opportunities in South Africa; it has also been trying to break into the Middle East. However, these markets are much smaller than the EU and probably could not support a commercial fresh herb farm. The logic for growing this crop in Uganda is that most of the herbs sold in Europe are either locally grown or imported from Israel, which gives Uganda very strong comparative advantage in labour costs. Most of the herbs are pre-packed in Europe, there is therefore a considerable opportunity to add-value by pre-packing the herbs in Uganda, which will not only increase the value of the exports but create further employment. After some problems with agronomic issues, it appears that it is possible to produce a range of herbs satisfactorily, but there are still considerable problems breaking into the EU market.[119] It will require a lot of effort and further support before this venture will succeed commercially.

The one vegetable export that has been successfully developed in Uganda in the last few years is hot pepper (Scotch Bonnets). Hot pepper trials were started by the IDEA project and hot peppers were discovered to be particularly well suited to the sub-tropical Ugandan climate, and uniform temperatures ensure that the peppers have a good pungency throughout the year. Uganda exported in excess of 1,300 tonne in 2003 (Table 3.7) and it probably has increased since then; it is now regarded as market leader in Europe for this product. It is likely that these exports will

[118] Programma Samenwerking Opkomende Market is Programme Cooperation for Emerging Markets.

[119] Currently, the EU herb market is well-supplied by reliable producers based in Europe and imports from countries such as Israel. Melissa Farms undertook market research before they started growing the fresh herbs a marketing strategy was established. However, the importers found it more difficult to oust European and Israeli product from the supermarket chains then had been anticipated – it appeared that the supermarkets were buying on reputation rather than price. This forced the importers to find alternative marketing outlets such as the European wholesale markets, which are lees important outlets than the supermarkets.

continue to increase steadily as other countries are forced out of the market, but unlike some of the temperate vegetable exports that were tried earlier, the market size is limited. Besides being well suited to the Ugandan climate, this product has the advantage that it does not have to have the field heat removed quickly after harvest such that a much smaller investment in post-harvest handling is required. Also, this crop has been successfully grown by small-farmers such as those on the Government-supported Mubuku Irrigation Settlement Scheme at Kasese.[120]

In sum, the history of developing vegetable exports from Uganda has not been successful. Despite the efforts by various aid projects, especially IDEA and its predecessor, Export Promotion Analysis and Development Unit (EPADU), only very limited niche market opportunities have been exploited. The biggest constraint is that the climate around Lake Victoria is much too warm for the temperate crops and, in many of the cooler areas, the rainfall is too high and too frequent for field crops. The climate in Uganda is suitable for a range of some more tropical vegetables such as okra, chillies, hot peppers and Asian vegetables. However, there are other countries which have good locations for growing these more tropical vegetables, for example Ghana and Kenya.[121] The air freight out of Uganda may be comparable with Kenya but it is much more expensive than West Africa, which gives countries such as Ghana very significant comparative advantage. Finally, many of the successful horticultural exports in Africa have been started on large commercial farms, which have the technical and financial resources to get the industry established. Uganda does not have many large commercial farms to establish a large horticultural export sector.

After the IDEA project ended, USAID established a successor project, Agricultural Productivity Enhancement Program (APEP), to support some agricultural exports. Following the lessons learnt from 10 years of IDEA, the decision was made to support some traditional agricultural exports (coffee and tea) and some non-traditional crops (maize, rice and floriculture) but not horticulture, which reflects the perceived low potential for its further commercial development.

Further evidence of the low potential for export horticulture in Uganda is that at a workshop on "Partnership for Market Access: Towards a Sustainable Market Orientated Horticultural Industry in Uganda"[122] held in October 2005, a SWOT analysis was presented which identified 17 weaknesses and which concluded that "Uganda has a limited competitive position in export markets."

Cross-border trade

Cross-border trade of agricultural commodities has always been an important market for Ugandan farmers. For many years there has been significant trade in maize and beans and smaller amounts of matooke and horticultural products have been traded. Much of this trade is "informal" and not documented. The IDEA project started to estimate this trade in 2001 which shows that there has

[120] The IDEA project started a series of trials on this settlement scheme in 1999. Other crops such as green beans, baby corn, passion fruit and asparagus were not developed commercially either because of poor profitability or difficulties with post-harvest infrastructure. In 2005, it exported 215 tonnes grown by 120 farmers, mainly to the Netherlands. One of keys to the success of the operation is the strong support from Government which funded some of the infrastructure and the management, and also the Dutch buyer who lent the growers money to buy a truck to transport the vegetables to the airport.

[121] Airfreight rates for fruits and vegetables are about US$1/kg from Ghana to Northern Europe compared to almost US$2/kg from Entebbe.

[122] The workshop was organised by Wageningen UR following and initiative by the Government of the Netherlands (through its Ministries of Foreign Affairs and Agriculture, Nature and Food quality)

been a very rapid increase in exports over the last three years but they have low unit values (which is consistent with the fact that much of the trade is matooke). In tonnage terms, cross-border trade is larger than the EU trade, and it is growing much more rapidly. After the completion of the IDEA project, the only source for cross-border trade was UBOS, which found that in 2004 the main horticultural exports were bananas (matooke as well as desert bananas such as bogoya and apple bananas) most of which were destined for Kenya[123] (Table 3.1). Of the 937 tonnes of bananas informally exported each year, worth about US$212m., 96 percent were to Kenya. Smaller amounts of pineapples were exported valued at around US$61,000.

The National Agricultural Advisory Services Program (NAADS) has recognised that some of their farmer groups have already identified markets in neighbouring countries for melons and pineapples. NAADS are committed to helping these exports expand by improving production and marketing. This cross-border trade could be significant to some farmer groups, but overall, there is little indication that it will have a significant "national effect".

Processed products

Processing of fruit and vegetables in Uganda is very limited. There are four main types of processing: drying (dehydration), juicing, freezing, and canning. A small drying industry has been established in Uganda using small solar driers and there are small factories that produce fruit juice. There are no serious investments in freezing and canning.

Dried fruit production. Currently there are five companies exporting dried fruit: Fruits of the Nile, Amfri Farm, Masaka Organic Growers, Tefu Ltd, and Flona Commodities. Most of the exports are to the UK with some to Germany and other European countries. The two main exporters are targeting distinctly different markets. The biggest exporter, Fruits of the Nile, markets most of its fruit in bulk for further processing in the EU, for example into fruit bars and other confectionary products. It exports about 80 to 100 tonne of dried fruit per year (about US$200,000-250,000/year); the main products are apple bananas (35 tonnes) and pineapples (35 tonnes), with smaller amounts of papaya, mango and other types of bananas. The other significant exporter is Amfri Farm, which exports dried organic produce in retail packs. It currently exports 6 to 7 tonnes/year of dried product (about US$60,000-70,000); the main product lines are pineapples, bananas, papaya and jackfruit. It is estimated that the dried fruit industry in Uganda will be buying about 1,000 tonne of raw fruit per year.

The business philosophy of these companies is to buy the dried fruit from small farmers. The companies will often lend the farmers money to purchase raw material and provide advice and help with traceability and, in the case of Amfri Farm, with attaining organic status. Fruits of the Nile has between 450 to 500 solar driers supplying their exports, Amfri has about 50 driers. Most of these driers are constructed locally, although Amfri Farm has utilised support from the Danish Government to improve the efficiency and quality of the output from their solar driers. The companies employ people at their factory to inspect, grade and package the dried fruit slices. There are some people employed on the farm to slice the fruit and run the driers; it is estimated that typically one person would need to be employed per solar drier.[124] In total, it is estimated that the industry currently provides the equivalent of 600 to 700 full-time jobs.

Uganda has made good progress in establishing a niche dried fruit industry although they have achieved this despite lacking true comparative advantages. The companies noted that transport

[123] UBOS (2004a).
[124] See Sergeant et al (2004).

costs and raw material are much more costly than for companies located in competing countries. Most of the dried tropical fruit supplied to Europe comes from countries that border the sea and they utilise reject fruit from the fresh export industry. The lack of comparative advantages explains why Uganda is such a small supplier of dried fruit to Europe: it is estimated that they constitute less than 1 percent of the dried tropical fruit imported into Europe. It is hoped that the industry continues to expand, but the lack of comparative advantages will always mean that it will be a niche supplier and there is little opportunity that dried fruit will become a major commodity.

The two companies that have been able to export dried fruit even though Uganda has very few comparative advantages have benefited significantly from donor support and have created competitive advantage through exceptional management and in particular, exceptional marketing. In the case of Amfri Farm, its marketing strategy has been focussed on producing organic dried fruit and adding considerable value through pre-packing into small retail packs. In the case of Fruits of the Nile, its importers have been working diligently to place their product into companies that pay attractive prices. This does demonstrate that excellent management and donor support can overcome some lack of comparative advantage.

Fruit juice production. The largest fruit juice producer in Uganda is Britannia Foods (under the brand name Splash). This company manufactures fruit juice using either locally purchased fruit or imported juice concentrate. It claims to buy as much locally grown fruit as possible – when it is available and when the price is right. However, most of its drinks are made from imported concentrate because, for climate reasons, much of the fruit they require cannot be produced in Uganda at sensible prices, for example apples, grapes. The main fruit purchased locally is mango, with some passion fruit. In total it purchased 375 tonne in 2004 and expects this to grow to 500 tonne in 2005. Most of the company's production of about 350,000 litres is sold locally, with approximately 20 percent exported (with an FOB value of about US$60,000). The export markets are all neighbouring countries, mainly Kenya, Tanzania, Rwanda, Burundi and DRC. Britannia is also a major manufacturer of biscuits so it uses its agents in neighbouring countries to market the juice and its trucks, which are mainly used to carry biscuits, to transport the juice.

Uganda has considerable comparative disadvantages for establishing a large-scale fruit juice industry. These include: a very small local and regional market such that achieving economies of scale becomes very difficult; expensive raw material (that is, fruit); expensive packaging (which has to be imported); and expensive and very unreliable electricity supply. In addition, high transport costs to international markets would make it impossible for Ugandan exports to compete, even if the other disadvantages were minimised.

It should perhaps be noted that there is significant production of juicing bananas (Kayinja) grown within Uganda: it is estimated that about 1m. tons of banana juice are produced annually. It is mainly used as a base for alcohol production; sales of a spirit based on banana juice (called waragi) and a beer (often made with added sorghum) are very significant.[125] This trade in fermented banana juice is supplied by a myriad of small, often illicit producers and virtually all of the trade avoids paying any Government taxes or levies. The biggest formal manufacturer of waragi is Uganda Breweries. Originally, it used to purchase spirit from small-scale distillers and further refine it. Production is now based on alcohol made from sugar with flavours added. Alcohol from sugar is used because it is much cheaper (by a factor of 8) and the quality is much better than buying from small-scale distillers. It is reported that there are significant informal exports, mainly to DRC.

[125] A IITA/Foodnet report estimates that about 2m. litres per year of waragi is sold in Kampala worth Ush3bn. (US$1.7.)

In addition to waragi production, some of the juicing bananas are processed into fresh juice by Jakana Foods, which buys fresh juice from rural producers, pasteurises it and then packs into retail sachets for the local market. Currently, sales are about 28,000 litres/year, but if more raw material were available, the local market could reach 35,000 litres per year.[126] To increase sales above this would require considerable efforts to promote the product or new external markets.

There might be an opportunity to export banana juice because Uganda is one of the few countries that grow a specific banana-juicing variety. However, most of the banana fruit drinks are made from a banana purée which is rejected by the fresh banana export industry. Therefore, the banana purée factories obtain their raw material extremely cheaply because it is a by-product. The issues involved with exports are whether there is an international demand for banana juice (as opposed to banana purée) and whether Uganda could meet the market's price expectations. It is reported that the opportunity is very limited because banana is not perceived as an exotic fruit and therefore would not command a premium price, like lychee or mango juice.

Frozen fruit and vegetables. There is no significant factory producing frozen fruit or vegetables in Uganda. The main comparative disadvantages for establishing this industry include a very small local and regional market, high freight costs to the larger markets in developed countries, the lack of raw material at sufficiently low prices, and the high cost and erratic nature of electricity supplies.

Canned fruit and vegetables. There have been attempts to start small canning operations in Uganda, but none of them have developed into significant operations. The comparative disadvantages are similar to those constraining frozen fruit and vegetables, that is small local market, high freight costs (which impacts significantly on to the marketing costs of the finished product and the cost of cans), and the issues associated with electrical power. In addition, the world demand for canned products is declining as there is a market swing towards frozen products, and the environmental issues associated with disposing of the cans.

Summary of processed fruit and vegetables. The opportunities for adding value to horticultural produce for export are very limited in Uganda. Being landlocked, the costs of export are very significant, although this protects Uganda and some of its neighbours from imports. The local and regional markets are very small because of the low purchasing power of most of the population. However, the exports of "Splash" to neighbouring countries do prove that some exports can take place and it does provide a small opportunity for some farmers to sell their production.

3.2 LESSONS LEARNT FROM OTHER COUNTRIES

A number of other countries have been successful in developing horticultural and floricultural exports to Europe. This chapter has selected the examples of Kenya, Zimbabwe, Zambia, Tanzania and Ghana to derive lessons of experience.[127] These countries have been chosen either because of their proximity to Uganda or because specific lessons can be learnt. Appendix 1

[126] Jakana claim that about 1 litre of retail banana juice is obtained from 1 kg of juicing bananas – banana juice is diluted from a Brix level of about 23° to about 14° for selling in Uganda.

[127] The consultant who prepared this chapter managed the biggest export farm in Zambia in the 1980s; he was involved with the establishment of what has become one of the biggest perishable exporting companies in Kenya; he has worked on aid projects in Ghana, Zimbabwe and Zambia, and has undertaken a similar study on issues and opportunities for horticultural and floricultural exports for Tanzania for the World Bank.

summarizes the main comparative advantages of these countries, the most important issues they had to address and identifies the key drivers and success factors. While the selection of the success factors is, to a degree, subjective, it does help to better understand the situation in Uganda.

Key factors affecting Uganda's floricultural and horticultural exports

It has often been suggested that Uganda should be able to mimic some of Kenya's success in developing horticultural and floricultural exports. However, it has had a much more troubled political and financial history than its neighbour; and therefore was much further behind on the "learning curve" than Kenya. As noted above, some investments were made in the late 1980s and early 1990s which replicated Kenyan horticultural and floricultural investments, but these first attempts were not successful. However, since then, with donor support and better understanding of the success criteria, Uganda has established a niche in the European markets for certain products. Its success has been based on the following factors:

- **Climate** – The climate around Lake Victoria is different from the main horticultural and floricultural areas of Kenya, which is why the original attempts to establish temperate vegetable exports, and subsequent attempts to copy the "Kenyan model", have failed. Similarly, the flower farms that tried to follow the Kenyan rose model producing "intermediate" varieties also failed. However, once the climate was better understood the flower farmers invested in sweetheart roses, which were profitable and led to the recent expansion of the industry. The Ugandan climate is also exceptionally good for the production of chrysanthemum cuttings, and a successful cuttings industry has been established. Following from the trials work supported by the IDEA project, export of hot peppers started.
- **Donor support –** The non-traditional high-value export industry received 12 years support from two USAID-funded projects (EPADU and IDEA) from 1992 to 2004. These projects provided considerable technical and business help for exporters. IDEA established trials to identify the most appropriate sweetheart rose varieties; it also financed the first chrysanthemum cuttings trials and developed the technology for producing export-quality peppers and chillies. The project also provided valuable market information and training for middle management, helped finance the building of a cold store at Entebbe Airport and provided staff to coordinate the logistics for export. Through this project, growers received considerable assistance to improve their product quality and the implementation of certificates required by European buyers. The flower industry also receives Dutch Government support to fund an internationally recruited Chief Executive Officer (CEO) of UFEA and in the form of PSOM grants.
- **Cooperation amongst growers** – The growers recognised that the industry would benefit if they cooperated in certain areas and successfully formed UFEA. This Association was vital to improve the freight situation; as in many countries, there is a very large step to move from exporting produce in passenger aircraft to chartering dedicated freight aircraft regularly. Most of the industry recognised that it needed to cooperate to achieve this and, through UFEA, and with help from IDEA, the industry now has regular freighter services landing at Entebbe. By cooperation and forming an active association, the industry has accessed funds to pay for its CEO, collectively lobbied Government for incentives (allowing exporting farms to be classified as Export Processing Zones, quicker VAT repayment, and duty-free inputs).
- **Freight** – There are a number of reasons why Uganda was able to establish good freight links with Europe. These included the cooperation by the exporters noted above and the significant fresh fish exports (26,000 tonnes in 2003) that were exported from Entebbe to Europe, making it much more attractive for freight aircraft to land. Also, the formation of their own

company (Fresh Handling Ltd) to manage the cold store at the airport and coordinate the loading and palletising of the exports was a major contributing factor to the success of having sufficient freight capacity at acceptable prices.

- **Government support** – GOU has provided some incentives to attract foreign investment into the floricultural industry which have been successful in attracting investments by most of the major breeders of chrysanthemums. These have included tax holidays through the Uganda Investment Authority, and duty-free inputs.

In summary, Uganda has an attractive climate for a **narrow** range of floricultural and horticultural produce, which it eventually started to exploit successfully. The realisation of the most profitable crops to grow was a relatively slow and financially painful process for the private sector, but was expedited by the cooperation amongst the flower growers and by donor support.

Success factors in other countries

The main success factors for the other countries are discussed in Appendix 1. Table 3.8 below provides the subjective rankings (by the consultant) of these factors, and the sum of the rankings for each factor. For each country, the five most important factors were selected and ranked, with the most important one being given 5 points and the least important one 1 point. It is recognised that even the factors that were given no points were important. For example, cheap labour did not get any points, but if its cost were the same as in Northern Europe, the comparative advantage for many of the exports would not exist. However, low labour rates compared to Europe is a characteristic across all the countries, and other more distinct factors were regarded as having contributed more to the country's success when compared with other African countries.

The most important success factor is clearly the climate. All too often, it is assumed that African countries can grow virtually all crops. The crops might grow, but it is important to understand that the climate has to be suitable to get the yields and quality to be competitive on international markets. Many of the commercial failures in Uganda are due to trying to grow crops that are not suited. After climate, freight is the next most important success criterion, probably because it is the important element in the profitability of horticultural and floricultural exports and its availability is crucial for the expansion of the industry.

After climate and freight, the next most important criteria are donor support, cooperation amongst the exporters, and having a vibrant private sector. It is perhaps surprising that donor support is so important; it had a low ranking in Kenya, but in the countries that had lesser comparative advantages, for example Uganda, Zambia and Ghana, it was much more important. In other words, donor support helped some countries overcome some lack of comparative advantages. It is not surprising that good cooperation amongst exporters was an important factor. It is important to gain economies of scale to help reduce input costs, and it is vital in obtaining donor support to facilitate trial work, provide training and build some infrastructure. Therefore, cooperation amongst the exporters is a "cross-cutting issue" and probably could be ranked higher. In all the countries reviewed where there was good cooperation, the key to the exporters working together was that as a group, they recognised the importance of cooperation. It is not too surprising that a group of entrepreneurs can see the benefits of cooperation and then unite to form a coherent group. Then once the benefit of cooperation is demonstrated, for example through increased air freight capacity, lower freight prices and access to donor finance, the bonds within the group are strengthened. But the key is that the exporters must recognise the benefits of cooperation and they must control and manage the cooperation themselves.

Table 3.8 Ranking of factors critical to the current success of horticultural and floricultural exports in Africa

	Kenya	Uganda	Zimbabwe	Zambia	Ghana	Total	Ranking
Climate	5	5	4	4	5	23	1st
Commercial sector	3		5	1		9	=4th
Infrastructure							
Freight	4	3	2	2	4	15	2nd
Externalise forex			3			3	7th
Government support	2	1			1	4	6th
Donor support		2		5	3	10	3rd
Economies of scale	1					1	=8th
Exporter cooperation		4		3	2	9	=4th
Cheap labour							
Cheap finance			1			1	=8th
Market linkages							
R&D/Training							

Source *- Consultant's estimtes based on his experience and interviews*

Key *- The 5 most important factors for each country were ranked depending on importance*

This analysis places support from Government as only the sixth most important factor in the successful development of an export industry. This may underestimate the role of Government. Most exporters in the countries reviewed would agree that their Governments have created an "enabling environment" and their role has often been to support the private sector, for example the role of the Horticultural Crops Development Authority (HCDA) in Kenya (see Appendix 1). Therefore, often the role of Government is as an enabler and not interfering, which is perhaps not always fully appreciated by exporters.

Access to finance, or cheap finance, does not appear to be an important issue in this analysis; it was only important in Zimbabwe and Zambia. However, in most countries, exporters and any company would obviously like cheaper sources of finance because it would improve their profit margins. In many countries, access to finance is not a serious issue because it is more difficult to find good business propositions for the banks to invest in.

This analysis, while subjective, does demonstrate the prime importance of climate, freight cooperation and having a vibrant and competitive private sector. It also shows that donor support can be very important in some countries. However, in the event of the climate not being suitable and competing countries having cheaper freight and an absence of a significant private sector, then donor support will not help a country overcome these disadvantages. It is therefore vitally important that Uganda only attempts to grow horticultural and floricultural crops that are suited to its climate and where it is not disadvantaged by freight costs.

3.3 MAJOR CONSTRAINTS FACING UGANDAN EXPORTERS

During the interviews with the exporters in the context this study, some **major** constraints to profitability which have negative implications for the export expansion were identified. These are:

- Climate
- Markets
- Airport cold rooms and other infrastructure
- Shortage of skilled middle management and supervisors
- Electricity

- Enabling environment

Climate

It was earlier noted that climate was the most important factor in a range of African countries that had successful horticultural and floricultural export industries. Recognising that Uganda has a warmer climate and, being on the equator, temperatures are remarkably constant throughout the year, Ugandan exporters have been able to successfully develop exports of sweetheart roses, chrysanthemum cuttings and a narrow range of vegetables. It has been more successful than Kenya at these products. Even though Kenya does have some altitudes that would suit sweetheart production, Kenyan rose investors have targeted production of t-hybrid and intermediate varieties, which are potentially more profitable. Traditionally, other countries that used to supply sweetheart roses, that is the Netherlands, Israel and Zimbabwe, are finding it increasingly difficult to compete with Uganda. The more uniform climate throughout the year gives Uganda a significant advantage: it can supply the market constantly throughout and thus spread its overheads. In addition, labour rates in the Netherlands and Israel are much higher.

The climate in Uganda is very good for producing chrysanthemum cuttings and it now accounts for a very significant part of imports into Europe.[128] At least two companies are trying to develop propagation of other species. For example, the breeders of geranium varieties are evaluating the opportunities for purchasing their cuttings from East Africa. Recently one of the big geranium companies was interested in establishing a propagation unit in East Africa and it considered investing in Uganda, but eventually it focused on Ethiopia because it thought the climate was better (the night time temperatures were cooler). However, geranium cuttings are being grown in trials by one of the chrysanthemum operations, who confidently expects the warmer temperatures to give higher yields than Ethiopia, but the issue is whether the quality will be good enough. If the quality **is** good enough, then the comparative advantage will therefore lie with Uganda. Another farm is trialling a wide range of plant cuttings which have much smaller potential market sizes than chrysanthemums and geranium—the climate in Uganda could be good for some of these plants, which should open up further expansion for exporting cuttings.

The climate around Lake Victoria for horticulture is a very major constraint to the range of horticultural crops that can be grown. Sub-tropical crops such as hot peppers grow well, as do okra, chillies, a range of Asian vegetables and the traditional staple food crop for the area, matooke. However, besides matooke and other bananas, the only one of these that generates significant exports from Uganda is the hot peppers where the relatively uniform temperatures throughout the year produce a constantly hot sample all-year-round.[129]

There has been considerable discussion about modifying the effects of the warm climate around Lake Victoria by growing horticultural and floricultural crops in the areas of high altitude in the East and West of the country, for example around Kabala, Fort Portal and on the slopes of Mount Elgin. Runner beans and mangetout were commercially trialled near Kabale by Mairye Estates, but the lack of infrastructure made this venture unprofitable. The other problem of growing outdoor vegetables in West Uganda is that the rainfall and humidity is much higher than in

[128] There are four main propagators of chrysanthemum cuttings for the European market. It is reported that Uganda is the preferred source for cuttings for three of the companies namely Fides Holland, Deliflor and van Zanten.

[129] Further proof that the Ugandan climate causes high levels of capsaicin (the crystalline alkaloid that is the active ingredient that causes "heat" in chillies, peppers and paprika) is that it produces a "hot" sweet paprika – which unfortunately the market does not want!

similar altitudes in Kenya, which will also add to disease pressure. However, crops grown under cover, such as roses, should be able to overcome the issues associated with the higher rainfall levels. Also, now Uganda has an established floricultural industry, it has the necessary backup and support to be able to grow flowers and cuttings at high altitude, but this expansion could certainly be accelerated by some improved infrastructure.

Markets

The European flower market is becoming increasingly competitive. Considerable investments in intermediate and T-hybrid production in Kenya and Ethiopia have put prices under pressure. Whilst these investments do not compete directly with Uganda's sweetheart production, the increased output will result in a decline in all rose prices, including sweethearts. Notwithstanding such a fall in prices, Ugandan farmers should still make profits, especially if efforts continue in improving technical and business management. The margins will probably be smaller and some farms will have to increase their production to maintain satisfactory profits. Ugandan exporters have been looking at diversifying their markets away from EU countries. Recently a delegation went to Dubai to evaluate the Middle East market and to investigate the opportunities for using Dubai as a hub for transhipping to other countries such as Japan, America, Russia and Eastern Europe. These diversification efforts should be encouraged because not only might it be possible to achieve better returns net of marketing costs, but it might be possible to identify opportunities for other flower types that would be competitive in these other markets.[130]

The USAID-funded Strengthening the Competitiveness of Private Enterprises (SCOPE) project has encouraged UFEA and some of its members to market flowers directly into North America, and some trial shipments have been made recently. These consignments were transhipped in the Netherlands and have the advantage that no commissions were paid to Dutch based agents. It is probably hoped that future consignments will be transhipped in either Dubai or Nairobi when KLM introduces direct flights between Kenya and North America. The flower market in North America is large, but in general it has a preference for roses with larger stems and heads and its sweetheart market is less well developed, which will disadvantage Ugandan roses unless production comes from the higher altitude areas. The comparative advantage for supplying roses to the North American market lies in countries such as Ecuador and Columbia which are much nearer than Uganda, and hence freight rates should be cheaper. Columbia and Ecuador are the second and fourth largest flower exporters in the world and most of their output is targeted at North America.[131] If there is a significantly sized market opportunity for sweetheart roses, then it is more than likely that it will eventually be supplied from these South American countries.

The European markets for most horticultural products are only growing slowly. Sources that have competitive advantage are growing at the expense of less competitive suppliers. It is becoming increasingly difficult for countries that are not already supplying the markets to be able to enter, unless they have a major comparative advantage which is normally associated with having a suitable climate and competitive freight rates. There are two main reasons why it is hard for new entrants. First, the current suppliers made considerable profits that allowed them to write

[130] For example, African producers of chrysanthemum cut-flowers are not competitive in Europe because they have to be harvested when the blooms have opened and the numbers of flowers per box are much lower than, say roses, which makes the transport cost per stem very high, thus the comparative advantage lies with European production. However, the cost of airfreight from Europe to the Middle East is similar to the cost from Entebbe to Dubai – therefore, this will make Ugandan production much more competitive in the Middle Eastern market.

[131] The Netherlands is the biggest and Kenya is the third flower exporter.

off their original investment and development costs, but now margins are lower and it takes longer to recover the investment costs. Secondly, the demands of the European supermarkets for traceability needed to achieve standards such as EurepGAP adds considerably to the start-up costs for. These issues can be overcome if profitable niche products can be identified, such as fresh herbs.

The markets for regional trade are small, mainly because of the low incomes in many of the neighbouring countries. Uganda has been very successful in exporting low-value staple foods such as maize and beans, but it has been less successful with higher-value horticultural products. Some neighbouring countries have developed very successful horticultural exports, for example, Tanzania exports about US$25m. of onions, potatoes, tomatoes and oranges to Kenya.[132] This trade developed on the basis of true comparative advantage. As yet, Uganda's regional exports are small (less than US$1m.); even though it should improve, it does not have the comparative advantages to make a major impact into the small regional markets.

Airport cold rooms and other infrastructure

In 1993, EPADU made recommendations to build a cold store at Entebbe airport.[133] It took a while to organise the agreements to finance and build the cold store and it was not completed until 1998. The original design for the cold store assumed that the maximum throughput would be 3,000 tonne/year and it would be able to handle aircraft with a cargo capacity of no more than 40 tonne. A company, Fresh Handling Limited (FHL), was established in 2000 to manage the cold store, and to handle the flower exports of all the UFEA members. The company used grants and other support from IDEA, but was mainly financed by horticultural exporters buying shares in the new company. FHL organises air freight for the exporters by chartering planes ahead of time and booking cargo space. Currently FHL handles double the original planned throughput and fills aircraft with a capacity of 60 tonne or more.

The floricultural exporters recognise that the airport cold store managed by FHL is too small for their future requirements. There are other cold stores at the airport that could handle the increased future volumes, for example the Roka Bonds/Anova facility, which FHL occasionally hires. However, the exporters believe that maintaining the cold chain from field to market and ensuring that the export documentation is in order are so important that they want their organisation to take these responsibilities. This is completely understandable; all the main exporters out of Kenya own and manage their own cold stores at Nairobi airport.

FHL has employed a consultant to design an extension to the existing store that could be used by both the floricultural and horticultural exporters. The company expects to obtain grants and borrow money to finance the expansion. It claims that it has agreement from CAA to use land adjacent to the existing store for the proposed expansion. As part of the agreement for USAID to fund the original cold store, the assets were held by a company called Entebbe Coldstore Ltd, whose shares are held within the CAA. It is reported that the original agreement stated that these shares should eventually be bought out by the exporters. It is important that the exporters hold the shares, preferably through FHL, so they have the security of owning the cold store when they borrow funds to finance the cold store expansion. As of October 2005, the exporters were receiving considerable assistance from the UASID-funded SCOPE project to transfer the ownership of the existing assets to FHL, and it was hoped that this would be completed by the end of 2005.

[132] World Bank (2005k).
[133] Recommendations for a cold store at Entebbe airport by Andrew Sergeant and Chris Bishop, 1993.

The proposed cold store expansion has not yet been properly costed, but is expected to be about US$3m. (two extra cold rooms at a cost of about US$1.5m. each). One room would have the capacity to hold 300 tonne of flowers per week.[134] It is proposed to build another room of similar dimensions that could be used to grade, cool and pack vegetables. It was suggested to the vegetable exporters that it should be modelled on the Nairobi Horticultural Centre in Kenya[135] which comes under the jurisdiction of HCDA. It is certainly commendable that FHL is considering support to the vegetable export sector, but the concept in Nairobi has not worked as well as originally hoped. Despite the considerable advantages Kenya has for horticultural exports, HCDA has not been able to service the loan or repay any of the borrowing. Given that there are far fewer opportunities in Uganda for horticultural exports, it is important that the proposed vegetable side of the cold store expansion be properly evaluated.

The exporters believe in this so strongly that they are prepared to finance the expansion themselves. However, if they do finance the cold store themselves, then this will reduce their opportunities to invest in expanding production. And, given the heightening of competition faced by flower producers, in particular for sweetheart roses, expansion is necessary for these producers to maintain their profit margins. There are reportedly a number of sources of finance available for the cold store expansion. These include a "Distressed Flower Farm Fund" held by BOU which was established in the late 1990s before the farmers started growing sweetheart roses. This fund has about US$1m., but it is uncertain whether BOU might provide this as a loan or grant. It is also reported that discussions have taken place with other donors who might provide grants for the cold store expansion. There is considerable logic for donor support to fund the cold store expansion if it contributes to a serious increase in production; a doubling of flower output would create in excess of 6,000 jobs and US$35m. of export revenues. As with the Nairobi Horticultural Centre, any investment to build the vegetable packhouse and cold store would not generate sufficient margins to repay any loans.[136]

A major focus of future expansion of the floricultural industry is the move to high altitude production. This is sensible and needs to be encouraged as it will help the industry diversify away from sweetheart roses and chrysanthemum cuttings. There are a number of constraints that make it difficult to facilitate this geographical diversification. For example, the main roads from

[134] The flowers and cuttings arrive at the cold store packed ready for export and they simply have to be palletised ready for export. Occasionally if the temperature has increased in transit to the airport, it might be necessary to reduce the temperature before palletising.

[135] As part of this assignment, the Nairobi Horticultural Centre was visited. This project started in 2001 using a Japanese loan of Ksh 1.5 billion (USD 19 million) to build 7 rural packhouses and a central grading station and cold store near Nairobi airport. The project also funded over 50 vehicles for bringing produce from the rural satellite backhouses to Nairobi and it also provides extension advice to growers. For much of the year, only two of the rural packhouses are used. Export companies hire the facilities at the Centre but they bring their own workforce to grade and pack produce. About 10 export companies use this facility and in total less than 15% of the country's vegetable exports go through the Centre. The Centre claims to be covering its operational costs, but it is unable to pay the interest on the original loan and it cannot meet any of the loan repayments. The Centre also needs a further injection of finance to bring the facilities up to the standards demanded by the British Retail Consortium (BRC).

[136] Even though the margins for export horticulture have not been analysed, the experience of exporters suggests that they are very small – and the big horticultural exporters would not need to use grading and packing facilities at the airport as they have these on their own farm (Melissa and Mairye Estates) or, as in the case of Icemark, they have their own cold store facilities at the airport.

these areas are adequate,[137] but there is need for better feeder roads to open up areas away from the main tarmac roads. Also, if successful floricultural clusters are going to be developed, it will be necessary to improve telecommunications and the availability of potable water to improve the social conditions in the villages that will supply the workforce.

Shortage of skilled middle management and supervisors

One of the difficulties in the early years of developing exports was a shortage of skilled and experienced Ugandan middle managers and staff. Many exporters recruited Kenyan middle management, and many export farms still employ one or two in key positions. The higher salaries need to encourage Kenyan staff to move hurt Uganda's competitiveness. To address this issue, donors have provided considerable help to support training which, together with experience learnt "on the job", have helped develop a cadre of competent Ugandan middle managers.

IDEA contributed very significantly to training of Ugandan staff. APEP still funds a training course for supervisors which include visits to Kenyan farms as well as a one week study tour of Holland. UFEA is taking great store in sourcing funds to help train all people who work in the industry, for example accessing support from the Business Uganda Development Scheme – Enterprise Development Support (BUDS-EDS) (EU-supported) to train spray operators in the safe application of pesticides. The Dutch Government has supported the floricultural industry by funding retired experts and capacity building of management in the context of study groups organised by the Centre for the Promotion of Imports from developing countries (CBI).

The Dutch Government, through its Programme for Economic Cooperation in Projects (PECP), has funded the preparation of a business plan for the Horticultural Training and Development Centre. UFEA, which is promoting this training centre, expects that the Dutch will finance appropriate four-year courses at Bugalassi College and the Mountains of the Moon College (Fort Portal). A three-year course will be targeted at potential middle managers and the curriculum will include sessions on the theory of floricultural production, practical experience and training in business management. These centres will also be very useful for establishing basic agronomic trials to test new crops and varieties; such information will be particularly useful to help establish profitable production at new high altitude sites. In many ways the proposed course will be very similar to the successful Zambian Research and Training Farm which is controlled by the industry for the benefit of the exporters (see Appendix 1). This training farm was established by the Zambia Export Growers Association (ZEGA) using donor finance.

There continues to be a short to medium term need for more managers and for training the workforce if the industry were to expand rapidly and to diversify. Uganda cannot continue to rely on Kenyan staff because the climate is different and it is important to have staff that understands issues that relate specifically to Uganda. The training of management and supervisors is very important as the quality of management is one of the key factors underlying profitable horticultural and floricultural exports.

Electricity

A number of exporters and processors have noted that the electricity supply was very erratic. All too often, the electricity is off such that cold stores, processing equipment and irrigation have to

[137] However, upgrading existing minor roads from Muduma through Nakauka to the Entebbe road would save traffic destined for the airport from Fort Portal and Ntungamo having to go through Kampala. This would reduce the journey time significantly – as well as saving some of the traffic congestion in Kampala.

be powered by generators, which is adds to running costs and capital expenditure. Even when the electricity is running there is considerable variation in voltages which, despite using voltage protectors, often cause considerable and costly damage to the electrical equipment. Erratic supplies of electricity and wide voltage variations is something that Uganda's competitors, for example, Kenya, also have to contend with, but if the electricity supply could be improved it would prove a major comparative advantage. Removal of this constraint would be especially beneficial to the smaller processors, who have particularly high energy costs and expensive electrical equipment.

Enabling environment

UFEA and SCOPE's Ugandan Floricultural Strategy have indicated that the industry would benefit from an investment incentives package. In particular, UFEA claims that the industry needs to obtain inputs free of duty,[138] have long tax holidays, as well as support with obtaining all the permissions needed to establish export companies. UFEA claims that the flower exporters need these incentives to compete on a level playing field with countries such as Kenya, Ethiopia and Zambia. Undoubtedly, incentives would benefit exporters and might encourage further expansion, which in turn would create more jobs and improve export earnings. But it should be recognized that except for the cuttings industry, Uganda has achieved its current level of exports without attracting much FDI; most of the investment in cut-flowers and horticulture has come from internally generated funds. Also, investors are interested in other countries more because of the intrinsic advantages those countries offer than because of incentives. Investors prefer Kenya because of its climate and well-established support services, whereas the main reason for considering Ethiopia is its climate. Also, one of the attractions for Kenyan companies to invest in Ethiopia is that it is perceived as a "more secure environment"[139] and it also gives an opportunity to diversify political risk. Despite having a good reputation as being reasonably free from theft and personal crimes, Ethiopia might not be as sound a country to invest in as Uganda because it is less politically and economically secure. To overcome this perception, it has to offer very significant incentives to attract investors. It is important that the incentives offered by neighbouring countries are known and if these are **truly** reducing the foreign investment, then actions should be taken. At the moment, there is little evidence that the supposed low level of incentives offered is truly inhibiting the industry.[140] It is important that new investments are made for sound comparative advantage reasons; if they are made purely because of "incentives" then in the longer-term, they may not be competitive.

There are incentives that the industry should get but finds it very difficult to access. These include duty-free imports of inputs (which GOU is addressing as noted above), and the very slow repayment of Value Added Tax (VAT), help with purchasing land and establishing title and allowing the import of agro-chemicals that are specific to floriculture and horticulture. Support is clearly needed in these areas; VAT should be repaid promptly as it affects a company's cash

[138] GOU is about to pass Export Processing Legislation, to include the floricultural industry, which will help the companies obtain inputs free of duty.

[139] A number of Kenyan companies are interested in spreading their risks by investing in Ethiopia, but they would not have considered this investment unless the climate is as good, or better, than in Kenya. During a recent visit to Kenya, a number of managers in the horticultural business noted that their senior staff's personnel safety and theft/armed robberies are becoming an increasingly serious issue in some of the main production areas.

[140] Most of the complaints about the low level of incentives are often made relative to Ethiopia, but perhaps the main attraction it has for floricultural investment is its climate and the incentives are just helping overcome some of the shortfalls the country has with infrastructure.

flow; it is important that land title is secured promptly to facilitate diversification and expansion and exporters should be allowed to use the same inputs as their competitors. In particular, when agro-chemicals have successfully completed the registration process in Kenya, they should be allowed to be imported and used in Uganda. Being able to use up-to-date agro-chemicals means the industry is better able to control crop diseases; newer agro-chemicals are also often safer to the environment and the workforce.

Another issue that is often mentioned as a constraint is the cost of airfreight. This is the exporters' biggest direct cost. The cost of air freight to Europe in October 2005 was about US$2/kg (including airport handling). Uganda is always going to be slightly more expensive than the best rates that can be achieved out of Nairobi (which has a comparable rate of US$1.90/kg), as the Kenyan industry is much larger and can negotiate better deals because of its economies of scale, plus aviation fuel will always be more expensive in Uganda because it has to be transported a longer distance. Uganda will also always be disadvantaged compared to West Africa, which is much nearer to Europe.[141] Rates out of Ethiopia have been subsidized by Government to help establish the industry, but the subsidy has been decreasing and most investors believe that it will be similar to rates out of Nairobi within a couple of years.[142] FHL and UFEA have already provided the industry with freight rates as low as they could be. As the industry grows, the attendant economies of scale of exports would further help lower rates.

Another issue that is often reported as a constraint is the terms and conditions and availability of finance.[143] If businesses are able to obtain finance at more favourable terms and conditions, it would obviously help the businesses be more profitable and would probably increase the rate of expansion. There are institutions that want to lend to businesses based in Uganda, but they have problems identifying good business. Development banks such as the International Finance Corporation (IFC) and the Netherlands Development Finance Company (FMO) have funds available to lend to Ugandan companies. It has already been noted that opportunities for profitable horticultural production are very limited, so obtaining funding from development banks for vegetable and fruit exports will obviously be very difficult. The development banks will be much more likely to finance investments in floricultural projects, especially around the Lake Victoria area.

Use of DDT in Uganda

It has been reported that GOU is considering using DDT to control mosquitoes in an effort to reduce the incidence of malaria.[144] DDT has been used successfully in Zambia, Zimbabwe and South Africa and has significantly reduced deaths from malaria (see Volume 1, Chapter 5). Even though DDT would be used in the urban areas and should not be applied anywhere near the flower and horticultural farms, there is some concern that if it becomes widely known that Uganda has reintroduced DDT, exports may be adversely affected.

[141] As a rule of thumb, fuel accounts for about half the operating costs of cargo aircraft.
[142] In November 2004, freight rates out of Addis Ababa of USD 1.09/kg were being quoted; by October 2005 they were up to USD 1.60/kg. Addis Ababa is nearer Europe than both Entebbe and Kampala, so the aircraft will use less fuel. However, many of the aircraft that collect perishable cargo out of East Africa fly from Europe to either West Africa or South Africa before repositioning in East Africa. Therefore the round trip will be very similar in distance irrespective which of these East African countries it collects freight from, so the total running costs will be similar.
[143] For example, SCOPE (2005d).
[144] Jaffee et al (2006).

Zambia is one of the countries that has re-introduced DDT. As the vast majority of Zambia's horticultural produce is destined for Northern European supermarkets, it is subjected to stringent pesticide residue analysis, including DDT; if DDT residue were an issue, it would have been identified. Zimbabwe and South Africa also use DDT to control mosquitoes and it has not hampered exports from these countries. The inference from these examples is that provided that DDT is applied sensibly and not near farming areas, horticultural exports would not be affected.

The issue with flower exports is not that residue might be ingested, but any residue in the stems might enter the food chain if the stems decompose and are used as compost. Pesticide residue analysis is not routinely done on flowers entering the EU. However, if DDT is used to control mosquitoes, then it is suggested that UFEA undertakes some residue analysis on random samples to be able to prove there is none in the flower stems, in case there is any concern shown by the buyers.

Finally, it is important that if DDT is reintroduced, both UFEA and Hortexa prepare a contingency plan to be able to protect the reputation of exporters if its use affects the perception of Uganda's exports.

3.4 COMPETITIVE POSITION AND SWOT ANALYSIS

Floricultural and horticultural exports to Europe

Strengths	**Weaknesses**
• Relative political and economic stability • A distinct sub-tropical climate • All-year-round production allows overhead costs to be spread • Consistent quality throughout the year • Good quality of hot peppers • Floricultural industry now has the critical mass to facilitate geographical diversification • Considerable support from the donor community, particularly USAID and the Dutch PSOM grants • Good cooperation between exporters • UFEA works actively to promote Uganda's floricultural exports • FHL and the airport cold store have helped maintain the cold chain • FHL has negotiated sensible airfreight rates and guaranteed sufficient cargo capacity • Cheap labour • Technical support and inputs available from Kenya • Cheap and plentiful land	• Sub-tropical temperatures prevent profitable production of many products, such as most roses and temperate vegetables, significantly reducing market opportunities • Lack of fruit and vegetables that can be exported competitively has inhibited the build-up of horticultural critical mass • Inexperienced labour and shortage of skilled management and supervisors, exacerbated by the expansion of the floricultural industry • Some incentives for exporters are not promptly recognized by some GOU departments, for example VAT refunds • Registration of agro-chemicals can be slow, with some inputs used by competitors not being able to be used in Uganda • Relatively small base of commercial farmers • Increasing requirement for traceability by the European supermarkets makes it even more difficult for small-farmers to participate in horticulture exports • Erratic electricity supply
Opportunities	**Threats**

• Expanding market opportunities as production increasingly moves away from Europe to developing countries • Opportunities for increased cutting output as production moves away from South Africa and South America to countries on the Equator • Currently 80 percent of Uganda's flowers are sold via the Dutch auctions. As the industry gets larger, more exporters will sell direct to supermarkets, which will result in higher FOB prices • Political unrest in Zimbabwe gives opportunity for new suppliers of sweetheart roses	• Other countries may offer more attractive incentives and provide a quicker, more helpful support service to new investors (for example Ethiopia) • Other countries have better growing climate (for example Ethiopia and Kenya)

The comparative/competitive advantages for export floriculture and horticulture in Uganda include:

- Very good climate for all-year-round production of sub-tropical crops. This gives high yields, facilitates consistent marketing and should lead to a greater proportion of the crop being marketed direct to retailers, thereby obtaining higher prices than at the Dutch auctions;
- The cooperation amongst the floricultural industry (UFEA and FHL) gives it great strength to negotiate favourable airfreight rates and cargo capacity;
- The donor community has been very important in helping with infrastructure, training, diversification and support to UFEA and FHL;
- Good facilities at Entebbe airport have helped establish the flower industry;
- Large tracts of land are readily available especially away from Lake Victoria; and
- It has a successful floricultural export industry that is an excellent basis for further expansion and diversification.

The main constraints that have been identified include:

- The Ugandan climate is unsuitable for growing many of the air-freighted products needed by the European market;
- Very expensive road and rail transport costs to Mombassa port preclude sea freighted products;
- The market price of sweetheart roses is expected to decline as increased production of intermediates in Kenya and Ethiopia comes into production. This will reduce the margins for Ugandan production;[145]
- Cooler areas at higher altitude have not yet been developed and until some investment in road infrastructure has been made, there will only be a limited production area along the good roads;
- Shortage of skilled and experienced middle management and supervisors;
- Some issues associated with implementing the incentives offered by GOU (in particular VAT refunds) and with registration of agrochemicals; and
- The erratic electricity supply and variation in voltage increase costs.

[145] It is not expected to eliminate the margins but, in order to maintain margins, management and technical performance will have to improve. Alternatively, the flower farms will have to expand in order to maintain their overall profit margins. Either way, the sweetheart industry is expected to face a more competitive market over the next few years.

Regional horticultural exports

Strengths	**Weaknesses**
• Produces crops that are known by neighbouring markets, for example matooke and apple bananas • A history of informal cross-border trade has facilitated a cadre of market intermediaries that respond to trading opportunities • NAADS has recognised that neighbouring countries are a good market opportunity for Uganda's farmers • Good truck roads that facilitate transport to some neighbouring countries	• Poor infrastructure in many rural areas, for example feeder roads are often poor • Under-developed marketing system with poor MIS for farmers and traders • Poor understanding of marketing chain precludes opportunities to improve its efficiency and reduce transaction costs • Evasion of taxes in Kenya has resulted in inefficiencies in the supply chain in the form of having most of the product transported across the border by bicycles • Lack of rural collection centres for farmer groups • Tradition dictates that there is an excessive number of actors in the supply chain • Shortage of on-farm skills to improve yields and quality • The sector has received very little support from donors or GOU
Opportunities	**Threats**
• The peace processes in the Sudan and the DRC are opening up fresh market opportunities • The main imports into these countries are dry goods but there should be opportunities to add some horticultural products to the consignments	• Neighbouring countries can also grow many of the imported products themselves. When this happens, it will nullify the market opportunity • Some donor support is being given to farmers in neighbouring counties to help expand their horticultural production

The comparative/competitive advantages for regional horticultural exports from Uganda include:

- There are some shortages of horticultural products in some of the neighbouring countries because either their production has declined due to political unrest (for example DRC and Sudan); or there are land pressure problems which prevent production keeping up with increased market demand (for example Kenya);
- Uganda has a tradition of exporting staple foods to neighbouring countries, especially Kenya, Sudan and DRC. Therefore, there are a number of market intermediaries that can recognise and exploit regional export opportunities. These market intermediaries form a good basis for developing trade and information flows;
- The regional market is importing considerable amounts of dried goods (for example cement and hand tools). The traders responsible for these products could diversify into horticultural crops.
- Hopefully support from NAADS will help the industry gain some economies of scale which will enable the marketing chain to become more efficient and stimulate reduced transaction costs.

The main constraints that have to be addressed include:

- Improving farmers' marketing skills and helping reduce marketing costs;
- Lack of appropriate market information to farmers and traders. The traders need support to help them understand the scale of the market opportunities and the quality needed to supply the market;
- Efforts are needed to add value to the produce,[146] increase the range of products and encourage the farmers to produce the exact quality and service demanded by the import market; and
- Efforts are also needed to ensure that local cesses and duties do not become excessive and that customs officers do not inhibit exports by making unnecessary demands.

Processed horticultural exports

Strengths	**Weaknesses**
• The high transport cost of importing processed foods gives Uganda an opportunity to supply markets in neighbouring landlocked countries, especially those without access to coastal ports • A history of informal cross-border trade has allowed small amounts of processed food to be already exported • Neighbouring countries have similar gastronomic tastes as Ugandans, therefore some regional markets are simply an "add-on" to the local market • It is possible to access technological support from Kenya • Good truck roads that facilitate transport to some neighbouring countries • Some determined entrepreneurs may be able to drive some niche market opportunities, for example dried fruit.	• The cost of raw material is generally very high, especially when compared with the main international processors of fruit and vegetables (for example India) • Lack of understanding and application of contract farming, which is needed to help guarantee regular supplies of raw material and a guaranteed market for the small-farmers • Low purchasing power in the local and regional markets, hence very small economies of scale • High cost of transport would render virtually all of Ugandan processed products non-competitive • Erratic electricity supply and variation in voltage add considerably to capital and maintenance costs • High cost of transport, raw material and electricity problems mean that Ugandan exports would be totally uncompetitive in markets outside of Africa, and • This sector has received limited support from donors or GOU.
Opportunities	**Threats**
• The main opportunities will be to develop regional exports, especially as the peace process in the Sudan and the DRC opens up some new opportunities • There could be some **small** niche opportunities to supply a narrow range of products, for example, dried fruits, but	• Neighbouring countries can also grow and process most of the same products that Uganda could process.[147] In the case of Kenya, it has a much more competitive cost structure; and • Some donor support is being given to farmers in neighbouring counties to

[146] Increasing value could be either through improved quality, improved packaging and presentation, or by processing.

[147] One product that promoters of processed matooke are keen to develop is dried matooke chips. These are already manufactured and sold in Kenya.

these will always be very limited; and • There could be a **small** opportunity to supply processed local products (for example dried matooke) to Ugandans living abroad.	help expand their horticultural production

The comparative/competitive advantages for processed horticultural exports from Uganda are very limited, but include:

- Local market being protected by transport costs associated with importing processed products. This also gives comparative advantage in some of the neighbouring countries;
- There are a few factories processing fruit and vegetables that could be expanded further, which would give the industry a base to build on; and
- The private sector has started to identify some regional export opportunities and these could be stimulated and supported further.

The main constraints that have to be addressed include:

- High cost and erratic supply of raw material;
- High cost of transport to access markets outside of Africa;
- The erratic supply and variable quality of electricity adds considerably to the costs, and
- Very small market opportunities where Ugandan exports might be competitive.

3.5 PROSPECTS FOR EXPANSION AND DIVERSIFICATION

Cut-flowers

The export of cut-roses has increased steadily over the last five years. Existing exporters are currently making reasonably attractive profits, and even though the margins are expected to be squeezed as rose production expands in East Africa, many of the existing growers are expected to increase their output from their existing operations. In addition, some growers want to diversify their production by expanding into high altitude areas. The rate of expansion into the high altitude areas will depend on the support the growers get.

If support is given to easing administrative issues in establishing new farms (for example land titles), supporting infra-structure (electrification and roads), and expanding the air port cold store facility, then there could be significant investments in high altitude greenhouses (already there is some investment taking place in Ntungamo district and near Fort Portal). This, together with some increase in sweetheart production around Lake Victoria, could double cut-flower exports over the next 5 years to US$54m. (UFEA's target). Under this scenario, employment is expected to double from 5,000 to 10,000 people. The European market is big enough to absorb extra production. If support is not given to production at high altitude areas (but donor support at current levels is maintained), then the increase in output will be lower, to an estimated US$42m. by 2010.

There will be some diversification to flowers other than sweetheart and intermediate (at high altitude) roses, but this is expected to be limited. There might be some attempts to supply different species to other markets such as Dubai or South Africa but, over the next five years, it is expected that this will be very small. Similarly, there might be attempts to grow other flower types for making bouquets, but these bouquets will still be dominated by roses.

Table 3.9 Projected export values and output of cut-flowers in 2010

	2005	2010 – normal	2010 - enhanced
Export value (US$m.)	26.9	42.0	54.0
Tonnage	4,600	7,200	9,200
Area under production (ha)	170	255	340
On-farm employment	5,000	7,500	10,000

Source: Accord Associates based on data collected from interviews.
Note: normal – assuming current levels of support; enhance – assuming enhanced levels of support as Discussed in the text.

Cuttings

The development of the chrysanthemum industry has been a major success story for Uganda. However, its future is very dependent on the parent companies that established the industry in Uganda remaining in the country. It is understood that these parent companies are very happy with the yields and production costs in Uganda, so there is no reason why the industry should not continue to grow. There are indications that some of the companies want to expand production in Uganda rather than South Africa and South America. UFEA expects that the value of cutting exports will double to US$19m. by 2009. One farm is undertaking trials on a wide range of cuttings for supplying the European garden centre trade. Another company is trying to propagate geranium cuttings for Europe.[148] If these efforts are successful, then doubling the value of cuttings within five years should be easily achievable. In addition, there might also be opportunities to produce certain flower cuttings at higher altitude.

If the exports of cuttings continue to expand, then the industry could be worth over US$16m. per annum by 2010. If the floricultural sector can successfully diversify into higher altitude and new plant species can be successfully introduced, then this could easily be exceeded and it could reach almost US$22m. per year (Table 3.10).

In sum, at current levels of support, cut-flower and cuttings exports together should easily reach US$58m. per year by 2010. If support is provided in the form of easing the paperwork associated with establishing new farms and providing infrastructure (including the cold store at the airport) to support diversification to the high altitude areas, then exports should reach US$75m. per year.

Table 3.10 Projected export values and output of cuttings in 2010

	2005	2010 – normal	2010 - enhanced
Export value (US$m.)	9.9	16.0	21.5
Tonnage	1,100	1,700	2,400
Area under production (ha)	35	55	75
On-farm employment	1,000	1,650	2,250

Source: Accord Associates based on data collected from interviews.

Horticultural crops to Europe

Interviews with horticultural exporters indicated that exports are only increasing very slowly. It is likely that exports of hot peppers will grow and perhaps double to about 2,000 tonne by 2010.

[148] The main competition for producing geranium cuttings comes from Ethiopia where a major investment by a breeder has recently occurred. The logic for the investment in Ethiopia was that the cooler nights near Addis Ababa (Appendix 1) will give better quality cuttings, whereas the warmer Ugandan climate will give better yields. Therefore, if the Ugandan quality is acceptable, then its higher yields will give it the competitive edge; if the quality is not good enough, Ethiopia will be the preferred source.

However, the margins on most other vegetables are simply too small for any significant expansion. Future prospects for the sector are not helped by the decision of Mairye Estates to stop exporting vegetables and the issues Melissa Farm has with marketing its fresh herbs. The one company that may significantly increase its exports is Icemark, which does have plans for significant expansion and growth into new markets. If Icemark is successful or another significant entrant could identify an opportunity and be encouraged to invest, then Uganda's exports could increase to US$7.5m. by 2010 (Table 3.11). However, if Icemark is less successful, a more meaningful target would be US$6.5m.

Table 3.11 Projected export values and output of horticultural products in 2010

	2005	2010 – normal	2010 - enhanced
Export value (US$m.)	5.0	6.5	7.5
Tonnage	5,000	6,000	7,000
Area under production (ha)			
On-farm employment	1,667	2,000	2,500

Source: Accord Associates based on data collected from interviews.

There is still interest by the donors in supporting horticulture. Currently much of this support has concentrated on farmers achieving EurepGAP certification, but it is doubtful whether this will open up many more opportunities for Ugandan exports as they are hampered by the country's lack of competitiveness.

Regional exports

Regional exports are very dependent on matooke and apple bananas, destined mainly for Kenya. Despite efforts by donors to increase production of these products in Kenya and Tanzania, it is expected that there will still be some growth in exports. It is also hoped that there will still be some growth in the exports of other fruit such as pineapples and melons, even though it will be from a very low base.

Given the lack of accurate data on exports, it is difficult to estimate accurately future targets. There is also conflicting evidence as to whether cross-border trade is increasing or decreasing. However, it is hoped that there will be a steady increase in the value of cross-border trade perhaps by another 50 percent by 2010. Considerable efforts are being made by NAADS to improve rural productivity of farmer groups. Some are focused on high-value horticultural crops such as pineapples and melons, and some could facilitate improved cross-border trade. It is projected that by 2010, the value of cross-border horticultural trade will reach US$1.5-2m. per year (Table 3.12).

Table 3.12 Projected export values and output of cross-border trade in 2010

	2005	2010 – normal	2010 - enhanced
Export value (US$m.)	1.0	1.5	2.0
Tonnage	6,000	9,000	10,000
Area under production (ha)			
On-farm employment	600	900	1,500

Source: Accord Associates based on data collected from interviews.

Currently, most of the regional market opportunities are in Kenya, both for formal and informal exports. It is expected that the greater purchasing power and the established trading and

transport[149] links with Kenya will ensure that it will continue to be Uganda's prime regional export market. However, other countries could also become significant importers. Already DRC imports processed dairy products and biscuits and this could be expanded. WFP imports horticultural produce for their feeding programmes; if this continues, it could be supplied by Ugandan farmers. Similarly, exports to Sudan have increased significantly recently as mentioned in Volume 1, Chapter 6; Sudanese importers could soon buy fresh horticultural produce. Given the good record of taking advantage of market opportunities by Ugandan traders, it is expected that these increased market opportunities will be exploited, but they could be accelerated by carefully targeted support.

Supplying the tourism sector

The Uganda local market is reasonably well supplied with fruit and vegetables. A recent study of the fresh fruit and vegetable market[150] noted that "smallholder farmers have almost all of the market, even in the recently opened foreign-owned supermarkets." Only very small quantities of fresh fruit and vegetables are imported. This is confirmed by research undertaken during the field work for this report, which found that around 20 percent of items in Uchumi (Kenyan owned supermarket) and 33 percent in Shoprite (South African owned supermarket) are imported, mainly apples, and to a smaller extent grapes, oranges, pears, mangoes, garlic and asparagus. Uganda's climate makes it difficult to grow good quality apples, oranges, pears and, at certain times of the year, mangoes. However, garlic and asparagus could be produced locally. Similarly, interviews with hotel catering managers and restaurant owners confirmed that the vast majority of their fruit and vegetable requirements were purchased locally. An increase in the number of tourists coming to Uganda would help raise the demand for locally grown fruit and vegetables.

Value-addition

In contrast to the fresh fruit and vegetable market, most of the processed fruit and vegetables are imported. Many of these processed products originated in South Africa and Kenya. These countries have a much larger local market and are capable of gaining economies of scale that are simply not achievable in Uganda.

Only two significant processed fruit items are exported, dried fruit and fruit juices, which together amount to around US$360,000 a year. Both the two main dried fruit operations hope to expand. Fruits of the Nile wants to move into larger premises and Amfri Farm hopes to increase the number of rural drying centres. These two companies have carefully targeted marketing strategies and they are capable of doubling output over the next five years. Similarly, fruit juice exports could also increase to neighbouring countries. It is unlikely that there will be many other entrants to the market place unless considerable resources are made available to new players. The projections assume that, without any increased level of donor support, exports will double by 2010 to US$720,000 a year (Table 3.13). However, it could reach US$1m. if there were increased donor support to stimulate new entrants.

[149] A considerable portion of the matooke and apple bananas are transported on the frequent buses that operate between Kampala and Nairobi.
[150] Bear and Goldman (undated).

Table 3.13 Projected export values and output of cross-border trade in 2010

	2005	2010 – normal	2010 - enhanced
Export value	360,000	720,000	1,000,000
On-farm employment	650	1,300	1,800

Source: Accord Associates based on data collected from interviews.

Amfri Farm also hopes to be able to enter the prepared fresh fruit salad market by supplying organic product. These fresh fruit salads have traditionally been prepared in Europe where fresh tropical fruit is imported from a number of sources by sea-freight and the fruit is then cut and diced. However, some organisations have succeeded in preparing the fruit salads in the countries where the fruit is grown, and where labour costs are cheaper, and then exporting the prepared fruit salads by airfreight to Europe. The profitability of preparing fruit salads in the country of origin depends on whether labour cost savings are greater than the higher freight costs (associated with shipping by air instead of sea) and whether there is sufficient fruit available of the correct quality and at a sensible price. Preparation of fresh fruit has been relatively successful in Ghana, which was helped by its cheap airfreight and plentiful supply of cheap pineapples. A number of countries have also established a market presence in South Africa, which has had considerable problems getting sufficient fruit all-year-round to keep the supermarkets constantly supplied. The logic for trying this in Uganda is that it can produce a considerable range of tropical fruit all-year-round. There would be concerns as to whether farmers can supply sufficient fruit regularly at an acceptable price to be able to supply the European market.[151] Undoubtedly evaluating the "fresh prepareds" market in Europe is a sensible strategy given that it is showing considerable growth. However, considerable investment would be required in a "high-care facility" to be able to prepare the salads in Uganda. Interviews with companies already in the manufacturing "prepared horticultural products" estimate that the total investment needed to set up such a facility would be in excess of US$1.5m., and a considerable throughput would be required to justify this level of investment. Amfri Farm is considering an investment in prepared organic fruit salads which would allow them to charge a premium, but the organic market in Europe is still rather small. They hope that they can establish a much smaller operation and therefore reduce the initial investment significantly.

In considering adding-value to horticultural crops, there could be an opportunity to prepare fruit and vegetables for hotels, restaurants and other catering outlets. In most developed and some developing countries, separate companies have become established to supply these outlets with prepared fruit and vegetables. There are a number of advantages to outsourcing this service; it should be cheaper because the supplier specialises in processing fruit and vegetables and will supply a number of companies. This processing will take place away from the centre of town where property rents and labour are cheaper. Some big hotels are starting to buy some of their catering requirements already prepared as a "portion", for example meat.

Summary

It is expected that total export earnings will increase by US$23.6m. per year and an extra 4,400 jobs will be created (Table 3.14). If the various sub-sectors are given more support, growth will be more dramatic, with earnings rising by almost US$43m.a year and another 9,000 jobs being created. The sub-sector that will contribute the most to this expansion will be cut-flower production, followed by floricultural cuttings. The expansion of both combined is estimated to

[151] In theory, this might be addressed by the introduction of contract farming, a concept that has worked well in the tobacco industry in Uganda, but has been much less successful for other crops.

account for about 90 percent of the increase in total export earnings, and 70 percent of the potential for increased employment.

Table 3.14 Projected increase in annual export value and employment, 2005-2010

	Increase in value and employment, 2005 to 2010	
Current support	Export value (USD million/year)	Employment (per year)
Cut-flowers	15.10	2,500
Cuttings	6.10	650
Horticulture	1.50	333
Cross-border trade	0.50	300
Processing	0.36	650
Total	**23.56**	**4,433**
Enhanced support		
Cut-flowers	27.10	5,000
Cuttings	11.60	1,250
Horticulture	2.50	833
Cross-border trade	1.00	900
Processing	0.64	1,150
Total	**42.84**	**9,133**

Source: Accord Associates based on data collected from interviews.

Most of the increase in cut-flowers will be associated with the development of high altitude production, whereas much of the increase in cuttings is expected to come from diversification of plant species and, to a lesser degree, production at high altitude. This demonstrates the importance of supporting the establishment of production units at high altitude sites.

3.6 STRATEGIES AND ACTIONS FOR EXPANSION AND ENHANCED COMPETITIVENESS

Over the last few years, Uganda has made considerable progress in developing its floricultural industry and in understanding the strategies needed to improve competitiveness to stimulate expansion of exports. The key for continued rapid expansion of the floriculture is the establishment of a significant cluster of production at high altitude; this will diversify the industry both geographically and by product. The next major strategy should focus on supporting the expansion of the cold store at the airport. The industry has received considerable support for training and management and this needs to continue.

Horticulture in Uganda is much more disadvantaged than floriculture. It is reliant on air freight to transport the produce to market and the climate reduces the range of crops that it can grow. Strategies to support horticulture should concentrate more on identifying what products and what markets the farmers can access profitably. In particular, greater effort should be given to accessing regional markets.

Opportunities for adding value to horticultural crops are also limited because of the country's lack of international competitiveness. There have been some **very small** successes in adding-value to horticultural crops, which has created some employment. Most of these small-processing companies have received considerable support, which has contributed significantly to their success. However, Uganda is severely disadvantaged in terms of climate and freight costs for adding-value to horticultural crops and therefore future opportunities will be extremely limited.

High altitude production

The most important strategy for the floricultural industry is to stimulate investments at high altitude sites. With respect to developing high altitude production, the issues that need to be evaluated include:

- **Identification of best areas** – in conjunction with the growers and UFEA, the most suitable areas for high altitude production need to be identified.
- **Infrastructure** – if a significant cluster is going to be established it will be necessary to improve the feeder roads so farms that are away from the trunk roads can be developed. Also the main roads from the likely production area to Entebbe airport need to be assessed.[152] It is also important that the areas that are opened up are electrified.
- **Trials** – trials to identify the best varieties and agronomic practices need to be started.[153] APEP is funding some rose variety trials at Ntungamo; these need to be repeated at other potential sites.
- **Facilitation of purchasing land and other permissions** – the exporter who is about to invest at Ntungamo has received satisfactory support from local and national administrators to establish land ownership; donors have also supported with establishing agronomic trials. The same assistance needs to be given to other potential investors.

The target of assistance to diversify at high altitude must be to establish a sufficiently large cluster of production that within 10 years would be as significant as the production around Lake Victoria. If help can be given to establish these clusters, it will create a very significant number of jobs in areas where regular full-time employment opportunities are very limited. It would also stimulate other farming activities; it has been reported that vegetable production has increased around the flower farms in the Entebbe area.[154]

Airport cold store and support to FHL

The airport cold store managed by FHL is no longer big enough and needs to be expanded. There are some issues regarding the ownership structure of the assets that need to be resolved, but this is expected to happen soon. Once the ownership is controlled by the flower exporters, then FHL can organise the finance to pay for the expansion. The growers have stated that they would fund this expansion themselves, but if there is funding support, it would release more of the growers' funds to expand their production on the farm. Uganda's development partners should seriously consider helping fund the airport cold store expansion.

FHL has been very successful with establishing sensible airfreight rates that are comparable with Kenya but more expensive than the subsidized rates out of Ethiopia. However, the cost of aviation fuel in Uganda is high—see Volume 1, Chapter 6 for recommendations to address this.

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[152] The main roads linking Fort Portal and Ntungamo with Kampala are reported to be adequate, but this needs to be confirmed. Also, the possibility of improving, or constructing a new road that would eliminate bring the produce through Kampala should be evaluated.

[153] It is not simply a matter of recommending the same varieties that are used in Kenya at the same altitude because the rainfall would be higher in Uganda, and hence sunlight levels would be lower, which could easily affect the intensity of petal colour.

[154] This was reported by scientists at Kawanda research station who noted that there had been an increase in requests for assistance from farmers near flower farms. In Kenya, it has also been noted that economic activities increased dramatically around the main floriculture and horticulture production areas.

Training and research

Considerable support has already been given to the floricultural industry for training of management and supervisors. It is important that this continues, especially if there is successful development of high altitude clusters. The anticipated support from the Dutch Government to develop three training courses for potential floricultural managers should also make a major contribution to the continued success of the industry.

To ensure that the initial investors at the high altitude sites make the correct agronomic decisions, it is important that research is supported where any new clusters are being developed. APEP's support at Ntungamo needs to be broadened to include crops other than roses, and research into cuttings production could also be undertaken. IDEA and now APEP have financed research on commercial farms to ensure that the results are truly applicable; this approach should continue as long as the results are made public.

Enabling environment

UFEA makes considerable claims that Uganda is disadvantaged because other countries are offering more attractive incentives. However, there is not too much proof that this is slowing investment in Uganda. Therefore, it is important to evaluate whether neighbouring countries are offering more incentives to floricultural and horticultural investors and then a rational decision could be made as to whether the GOU should attempt to match them. It is therefore recommended that a study be made to conclusively investigate the incentives in Kenya, Tanzania and Ethiopia.

One of the key success factors for the floricultural industry has been the cooperation amongst the growers which has enabled the industry to gain critical mass, to ensure successful negotiations with airlines, input providers and Government. The Dutch has been particularly helpful in funding UFEA's CEO. This funding is now being reduced and will eventually be withdrawn. However, a CEO would continue to be needed if a significant portion of the CEO's work is on helping with diversification efforts, such as on obtaining permission and land titles, etc.

Support to horticulture

Uganda has made only very slow progress in expanding horticultural exports due to its considerable competitive disadvantages, the most important ones being its landlocked status, and its climate which prevents the growing of many high-value horticultural crops demanded by the European market. Horticulture has received considerable support over the last 10 years; it is still receiving support from the EU's PIP to help some small-farmers achieve EuroGAP certification. This could help some growers access a wider market for their hot peppers and possibly their chillies. But EureGAP certification will not allow Uganda to significantly broaden its horticultural export base.

The opportunities for horticultural exports from Uganda are therefore **extremely limited**. The exports of Scotch bonnet peppers have already received considerable support and should now be able to compete without future assistance.

Support to regional exports

It has been suggested that donors should establish a project to stimulate regional horticultural exports[155] because this is where Uganda's horticulture is more likely to be competitive and if some significant regional exports could be developed, a cadre of technically competent and efficient producers of high-value crops amongst the small-farmer sector will be established. However, opportunities in this area are poor, or they would have been exploited already. Typically, in countries in East Africa where significant cross-border horticultural trade has developed, for example Tanzanian produce into Kenya, such trade has started when traders recognised the opportunities, and then donors and Government supported the opportunity to expand. While groups of small-farmers located near Uganda's borders might be able to exploit opportunities in neighbouring countries, such opportunities will be small. These groups could receive some support through the NAADS programme, which could provide some help for farmers or farmer groups to identify market intermediaries who would undertake the exports for them. NAADS could also provide farmers with help in improving yields and quality.

Support to processing

The competitive position of Uganda for processing of horticultural crops is not very attractive. However, despite the constraints, it has developed a small industry drying and exporting tropical fruit and small quantities of fruit juices are exported. There is also some processing for the local market, for example banana juice. The dried fruit and banana juice factories have received considerable donor support, which has contributed very significantly to their viability. These emerging industries have helped to create the equivalent of about 650 jobs, mainly in rural areas and, in the case of fruit juice, it has also reduced the country's need to import. However, opportunities for processing will always be constrained by lack of comparative advantages. There might be the opportunity for new businesses to emerge due to support from donors and NGOs, but these may well not be sustainable.

[155] In *Uganda's Floricultural and Horticultural Sectors – Recommendations to Improve their Competitiveness*, this was described as a Horticultural Incubation Project.

4. TOURISM

4.1 BACKGROUND AND CONTEXT

The global tourism industry has evolved considerably since its boom growth period of the 1970s. It has generated foreign exchange, economic growth and employment, and has also provided opportunities for biodiversity conservation, urban growth and regeneration, rural development, environmental restoration and safeguarding, host community inclusion, coastal protection and cultural heritage preservation—all dimensions of poverty reduction strategies in low income countries.

Since the 1970s, recorded tourism expenditures have grown more than 500 percent in the world economy, and employment rates in the sector are estimated to have grown 700 percent,[156] with the notable trend that an increasing share of this growth is taking place in developing countries. In the culturally and biodiversity-rich SSA region, tourism earnings and employment have grown 1200%[157] since 1980,[158] significantly outpacing other sectors. In the face of declining primary exports such as mining and agriculture—the region's share of global agricultural export value has declined almost continually from 8% in 1965 to 2% in 2000,[159]—tourism[160], which continues to be an expanding sector globally, may present a genuine opportunity for economic diversification and poverty reduction if host countries and communities can realize their advantage and position themselves accordingly.

Maximizing the poverty reduction impact of tourism requires, first of all, the expansion of tourism to generate employment and incomes. However, tourism growth alone would not reduce poverty if tourism expenditures do not remain in the country (that is, they are "leaked" through importation of products and personnel that supply the tourism industry), or if those expenditures that do stay in the country are not directed to the poor. Reducing "leakages" of tourism expenditures requires strengthening the linkages of tourism to other sectors or, in other words, increasing local sourcing and reducing the importation of supplies to the tourism industry. This chapter addresses the issue of tourism development as a tool for poverty reduction by identifying, and providing recommendations to address, constraints to overall tourism expansion, and by proposing the development of tourism products which are particularly beneficial for the poor. Other chapters in the report—notably Chapter 5 in Volume 1 (SPS), and Chapters 2 (fish) and 3 (horticulture) in Volume 2—address the strengthening of the linkages to some of the more important sectors that supply the tourism industry (improvements in the supply and quality of these products would increase the use of these locally produced products).

Uganda has a wide range of tourism assets, some of which are unique, many of which are under-exploited, and there is significant potential for tourism to contribute much more to growth, employment and poverty reduction in the country than it has hitherto. In recognition of this

[156] World Travel and Tourism Council (2004).
[157] This figure represents an increase in tourism receipts from about US$1billion in 1980 to US$12 billion in 2002, and an increase in employment in tourism from under 500,000 to nearly 6 million.
[158] World Tourism Organization (2003); the World Tourism Organization is now a "United Nations Specialized Agency".
[159] World Bank (2004).
[160] Tourism is defined by the World Tourism Organization as the activities of people traveling to and staying in places outside their usual environment for no more than one consecutive year for leisure, business, and other purposes not related to an activity remunerated from within the place visited.

potential, GOU has made repeated attempts[161] to plan for the development of tourism as a key economic sector. The latest of these efforts, the 2003 *Tourism Policy for Uganda*[162], has the overarching aims of **"***ensuring that tourism becomes a vehicle for poverty reduction in the future to the extent possible within the resources base and market limitations***"** and of increasing **"***holiday tourism from about 25,000 tourists to approximately 100,000 after a 10-year period bringing in an additional 150 mill USD.*" This chapter attempts to identify specific constraints as they apply to these aims, the reasons for them, and who, and how, they might best be addressed.

Uganda's Tourism Assets

From the source of the White Nile on Lake Victoria to the snow-capped Ruwenzori Range, the forests of the Virunga volcanoes to the arid plains of Karamoja, Uganda is an equatorial country (about the size of Great Britain) of astonishing contrasts. The country has 10 national parks with distinctly different scenery and activities. These range from the snow-capped Ruwenzori Mountains with year-round hiking and mountaineering comparable to Mt. Kenya and Kilimanjaro; Bwindi and Mgahinga Forests that include over half of the world's population of mountain gorillas (360 of 600); Murchison Falls National Park that is bisected by the River Nile; traditional African savannah parks such as Queen Elizabeth, Lake Mburo and Kidepo National Parks; vast tropical forests in Kibale National Park where chimpanzees and a variety of other rare monkeys are easily seen; and Semliki National Park with its kilometer-wide span of hot springs and one of the only accessible communities of Mbuti pygmies.

Resources outside national parks and forest reserves include the largely unspoilt Ssese Islands on Lake Victoria featuring boating, water sports and sport fishing, and the "Source of the Nile" in Jinja, the latter rapidly becoming an activity hub for adventure sports and tourism. Adventure tourism has grown rapidly in the past five years since white-water rafting started in 1999, and Jinja is now also host to bungee jumping, kayaking, mountain biking, off-road driving, motor biking, and international triathlons. Uganda is also arguably the richest African birding destination with over 1200 bird species recorded—one sixth of the world's 8,000 or so species.

Uganda's distinctive tourism assets, its friendly people and interesting cultural and historical heritage, including the ancient and now-revived Kingdoms of Buganda, Bunyoro, Ankole and Toro, have created a small, but growing, tourism industry that is generating employment and incomes throughout the country. There is undoubted potential to accelerate this growth sustainably without compromising the raw materials that underpin the tourism products.

Historical context of tourism in Uganda

In the 1960s, Uganda was an important regional tourism destination (in 1969 Murchison Falls National Park, one of the two major game parks in Uganda, received 66,000 foreign visitors – see Figure 4.1), at the time receiving a comparable number of tourists[163] to Kenya and certainly more

[161] *1989 Tourism Development Plan*, financed by UNDP; *1993 Integrated Tourism Master Plan*, financed by UNDP and World Tourism Organization; *2003 National Tourism Policy and Strategy*, financed by the EU and the World Bank.

[162] The policy is supported by a revision and harmonization of tourism-related legislation in the *Uganda Tourism Bill 2004* that is now being reviewed by the Cabinet, before being passed to parliament for ratification.

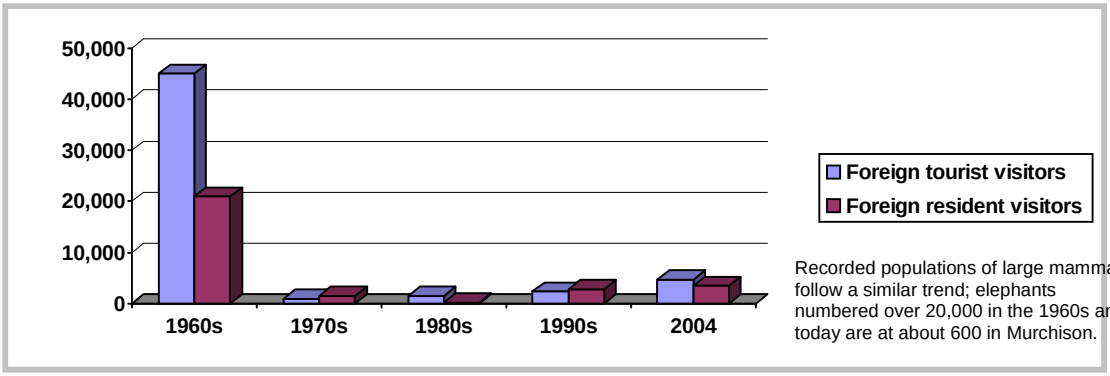
[163] The definition of a tourist is taken from the World Tourism Organization lexicon: "persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business or other purposes." It is the same definition used in the *2004 Uganda Tourism Bill*.

than Tanzania. During the 1970s and 1980s, tourism in Uganda all but petered out, natural resources were severely depleted (large mammal populations were reduced by up to 98 percent through out-of-control poaching), trained personnel left the sector, tourism infrastructure around the country eroded, and Uganda's image as a tourist destination was severely damaged by nearly two decades of civil unrest.

It was not until the 1990s that noticeable tourism activity resurfaced. Piggy-backing on the political stability that brought a flood of development and foreign embassy workers, the national parks and the run-down hotels started to receive visitors again, and Kampala started to attract a range of businessmen, meetings and conferences, and investors.

The closing of Rwanda and Zaire (now DRC) in the early 1990s to tourism benefited Uganda, which became the only place in the world to see mountain gorillas in the wild. In 1993, tourism to Uganda was re-launched as a gorilla destination with the opportunity of visiting unique and historic destinations such as the Murchison Falls and Queen Elizabeth National Parks. In 1994, Uganda went to its first "World Travel Market"[164] and announced itself as a new tourist destination. With little infrastructure to support visitors outside Kampala (roads and accommodation were poor) and virtually no marketing, Uganda struggled to attract tourists (in 1994 just over 1,600 foreign tourists visited Murchison Falls National Park).

Figure 4.1 Trends in Foreign Visitors to Murchison Falls National Park 1965 - 2004



Source: Uganda Wildlife Authority and Uganda National Parks Archives.

With very limited infrastructure to support pre-packaged holidays, the first leisure tourists that came to Uganda in the 1990s in any significant numbers (averaging about 2500 per annum and quickly filling the capacity of available gorilla-viewing permits[165]) were backpackers[166] and overlanders.[167] Uganda quickly developed a reputation as a friendly, easy-going and beautiful country to travel around. The gorillas (and in the mid-1990s, chimpanzees), Murchison Falls,

[164] World Travel Market in London is an annual 5-day exhibition and convention for buyers and sellers of tourism products, services and destinations. Around 40,000 exhibitors from around the world showcase their tourism wares.

[165] Gorilla permits are issued by Uganda Wildlife Authority and give the bearer the right to be guided to the gorillas in their natural forest habitat and to view them close-up for one hour. Permits can now be purchased up to two years in advance and up to six people at a time may be guided to a gorilla family.

[166] "Backpackers" in the context of this study are defined as independent travellers who tend to have limited budgets, prefer camping and cooking for themselves, and usually use public transport.

[167] "Overlanders" are groups of tourists that travel together in large trucks (varying 8-26 per truck). They cook for themselves and camp.

Queen Elizabeth, and the Nile were the main attractions that Ugandan tour operators sold to international, regional and local markets.

In 1993, the Ministry of Tourism, Wildlife and Antiquities (restructured in 1998 into the Ministry of Tourism, Trade and Industry), with technical assistance from UNDP and the World Tourism Organization, produced a 10-year *Integrated Tourism Master Plan* with a view to providing a framework to guide the development of the tourism sector. Aspects of the plan that have been implemented are: the creation of Uganda Wildlife Authority (UWA); the creation of Uganda Tourist Board (UTB); the creation of an inter-ministry coordination committee; and the formation of a private sector umbrella organization for the tourism industry, the Uganda Tourist Association (UTA). Critically, in the decade or so since then, many of the suggested roles and responsibilities of these respective institutions were not implemented as envisioned, and have evolved according to available resources. Specifically, UWA has evolved into a top-heavy, unsustainable institution financed in part by donors;[168] UTB currently lacks direction and resources to fulfill its mandate; the inter-ministry coordination committee is currently inactive; and UTA is still without sustainable supporting membership, making it difficult to function as an effective advocate for the private sector.

Continued bouts of insecurity (the Lord's Resistance Army (LRA)[169] in northern Uganda from 1994 until the present; the "Bwindi Incident" in 1999;[170] insecurity on the DRC and Rwanda borders from 1995 until the present; bomb threats of 1999-2000; repeated highway robberies and the negative publicity and travel advisories[171] have been a significant factor[172] in limiting tourism FDI and tourist visitation. Most observers (including all local tour operators, hotel developers, airline managers and foreign tour operators such as *Kuoni*, *Abercrombie and Kent* and *Wild Frontiers*) interviewed for the present study cite that the security situation—particularly the legacy of the conflict in DRC and the ongoing LRA terrorist acts in the north of Uganda—as the main reason for the slow growth of Uganda's tourism sector**.** This view is collaborated by views expressed in the international media that not only are the two conflicts very real impediments to growth and investment on the ground, but they have also become image problems for Uganda in its efforts to promote itself in international markets.[173]

To recap, between 1966 and 1971, Uganda had a reasonable (measured by regional standards) tourism industry with top quality game parks, good infrastructure including modern (for the time) and well-staffed hotels throughout the country. Between 1972 and 1989, all this almost completely collapsed. Since 1990, there have been sporadic efforts to rebuild a tourism industry, but these have been punctuated by ongoing security concerns, conflict with neighboring countries, uncertain policy and under-funded institutional reforms, and, currency exchange fluctuations. All of these have hardly been ideal circumstances to grow a sector dependent on its public image abroad, and on foreign investments and visitors.

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[168] Primarily the World Bank PAMSU project (Protected Areas Management and Sustainable Use) but also USAID, GTZ, the EU and various NGOs.

[169] This is an insurgent group that operates in northern Uganda with the objective of destabilizing that area.

[170] The "Bwindi Incident**"** occurred in March 1999 when *Interahamwe* rebels on the run in DRC crossed the Uganda border at Buhoma and abducted 10 tourists, murdering 6.

[171] Travel advisories are issued by foreign missions in Uganda for the purposes of informing travelling citizens and residents of those countries about conditions for travel in and around the country.

[172] Confirmed with tour operator and investor interviews (July 2005, DTIS mission).

[173] The Guardian, October 21, 2001; the Mail, Sunday, January 4, 2000; The Sunday Telegraph Magazine, June 12, 2001; and The New York Times, March 4, 2004).

There has been little foreign investment in the sector, despite many good intentions. One of the few examples was the privatization of Paraa Lodge in Murchison Falls National Park[174] to a Kenyan tourism group, Sarova Hotels. Despite a US$7m. refurbishment completed in 1998, the 75-room lodge could not maintain occupancies greater than 20 percent, and the owners eventually defaulted on a loan and sold out to the Uganda-based Marasa Holdings (a subsidiary of the Madhvani Group). Because of its position on the north bank of the Nile, the lodge continues to suffer (occupancy rate in 2004 was 32%) from the adverse publicity generated by LRA rebels.

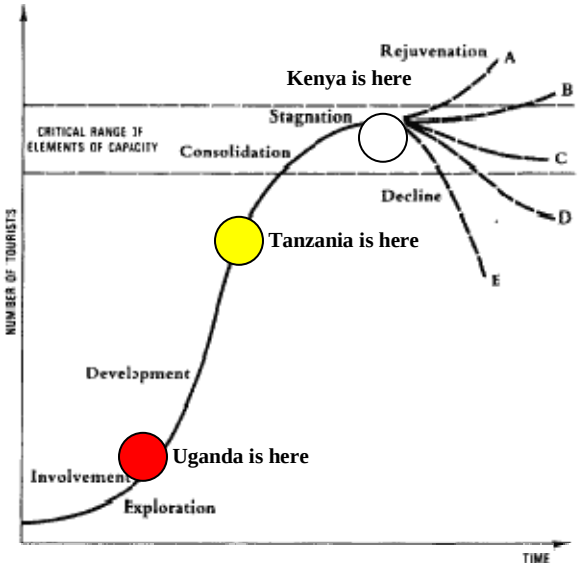
Development context of Uganda's tourism

As a result of the collapse of the tourism industry—and supporting infrastructure—during the 1970s and 1980s, Uganda's position as a tourist destination was at ground zero in the early 1990s. Even now, tourism in Uganda is still at a nascent stage with respect to the number of leisure tourists, number of service providers, number of trained personnel, access, tourism assets, level of organization of the industry, and levels of international awareness of the destination, having been very much stunted by its public image and recent political history. Based on the Tourism Area Life Cycle (TALC[175]) (Figure 4.2), a tool for framing the development of a destination, Uganda would be at the *involvement* stage, where there are barriers to be surmounted before it could move to the *development* stage. Tanzania has moved to *development* in the same period that Uganda moved from *exploration* to *involvement*. There are signs that Uganda is now moving towards *development* with the acquisition of the Nile International Hotel and Conference Centre in Kampala by the Aga Khan Foundation's Serena Group.

[174] Two other lodges in Murchison were also privatized at the same time, but the proposed investments (Kilimanjaro Safari Club in the case of the derelict Pakuba Lodge and Marasa Holdings in the case of Chobe Lodge) did not go ahead.

[175] Butlers' TALC model was developed in 1980 and describes a general picture of the life cycle of a tourism area.

Figure 4.2 Butler's Hypothetical Evolution of a Tourist Area diagram



Exploration stage is the beginning of the development of the area as a tourist destination. Only a small number of allocentrics or explorers visit the area and the tourism infrastructure is little or none.
Involvement stage comes with the increasing visitation that attracts local investment in tourism and public investment in infrastructure. The destination and market share come into being with the efforts of advertising and marketing (only just occurring in Uganda).
Development stage is a period characterized by increased FDI and a range of visitors and markets, driven by heavy advertising. Midcentrics replace explorers and allocentrics, and the majority of the population is accepting the destination (now occurring in parts of Tanzania).
At consolidation stage, the main income of the local economy comes from tourism and the visitation levels continue to increase but at a decreasing rate. Extensive efforts in advertising and marketing are made to overcome the seasonality and develop new markets. The importance of tourism is fully appreciated by the local people. At this stage, the least adventuresome "psychocentrics" are attracted and the growth rate is slowing down.
Stagnation occurs when visitor numbers peak and the capacity limits are reached, and the area is no longer fashionable. New visitors are few and the destination relies on repeat visitations and conventions for business (more or less where parts of Kenya have reached).

Source: Butler, R.W. 1980, "The Concept of a Tourism Area Life Cycle of Evolution: Implications for Management of Resources." The Canadian Geographer 24 (1), p. 8.

4.2 CURRENT STATUS OF THE TOURISM SECTOR IN UGANDA

Tourism contribution to the economy

Data and methodological issues make it difficult to determine the exact contribution of tourism to the Ugandan economy in terms of foreign exchange receipts, contribution to GDP, and employment. According to UBOS, international tourism receipts (ITRs) were US$444m. in 2004, based on 512,000 visitors each spending an average of $868[176] (Table 4.1). However, information gathered from tourism service providers and market surveys for the purpose of the present study indicates that the figure of 512,000 hugely overstated the actual number of tourists arriving in 2004.[177] According to this information collected by the World Bank for this study, around 26,550 foreign tourists visited Uganda in 2004, of which 19,550 were holiday tourists while 7,000 were on business (some of whom would also have engaged in tourism activities) (Table 4.1). These figures are much closer to the figure of 25,000 holiday tourists indicated in GOU's 2003 Tourism Policy for Uganda (and clearly much lower than the ones presented in Table 4.1). Further, the information collected by the World Bank also indicates that in addition to foreign tourists, an additional 18,000 tourists who were foreign residents engaged in tourist activities in Uganda in 2004. These tourists, and their tourist expenditures which are in foreign exchange, should certainly be included in the estimation of the economic impact of tourism. For

[176] Source: UBOS (2004b), based on Expenditure and Motivation Surveys conducted by MTTI in 2003 of tourists departing from Entebbe International Airport. Number of tourist arrivals from UBOS, immigration statistics.
[177] Discussions with Ministry of Finance and Bank of Uganda officials confirmed their lack of confidence in the estimates of tourism revenue.

the diagnostic purposes of this chapter, the World Bank collected data are used—that is, the diagnostic is based on an estimated total number of tourists of around 45,000 in 2004.[178]

Table 4.1 Tourist arrivals by purpose of visit (000s), 2000-2004 (all borders)

Purpose of Visit	2000	2001	2002	2003	2004
Leisure and holidays	35	45	69	76	86
Business/official	54	53	59	67	81
Visiting friends/relatives (VFR)	22	29	32	52	71
Others/transit	82	78	94	110	274*
Total	193	205	254	305	512

Source: UBOS Immigration Statistics.

*70% of this figure is represented by East African residents crossing borders for the day; a further 20% is transit passengers at Entebbe airport.

While it is not easy to ascertain the actual contribution of tourism to foreign exchange earnings, it is even more difficult to ascertain the contribution of tourism to the economy as a whole. This is the situation in Uganda but also in many other countries. While products purchased by visitors and produced by suppliers are part of core national accounts, they are not separately identified as contributions from the "tourist sector", since the latter is not set up as a conventional industry or product in the national accounts.[179]

Finally, there is huge range in terms of employment statistics, depending on whether informal employment is included. Estimates of employment in tourism range from 21,000 in direct tourism employment, and up to 240,000 if informal employment (such as street vendors catering to tourists) is included.[180]

In addition to these direct effects, tourism also contributes to the economy through the linkages it has with other sectors. None of these linkages have been included in the figures discussed above (however imperfect they are). The estimate of total employment that includes informal employment provided above would rise to 420,000 if all the backward linkages are taken into consideration.

[178] With a tourist figure of 45,000 at $868 a day, tourism revenues amount to US$39m., less than one-tenth of what is reported in UBOS. Tourism revenues compiled by BOU (see Chapter 1 in Volume 1) produce yet another figure—US$197m. Clearly this is an issue that requires further study.

[179] To overcome this problem, several developed countries have adopted a Tourism Satellite Account approach, which identifies the economic aspects of tourism separately, but still within the core national accounts framework, allowing it to be compared with conventional sectors like agriculture, manufacturing, and retail trade.

[180] The 21,000 figure is from a 2002 countrywide baseline survey of tourism-specific enterprises supported with funds from the EU and the World Bank. Enterprises surveyed included: accommodation, restaurants and food stores, tour operators and travel agencies, airlines, crafts and souvenirs shops and recreational facilities. The primary unit surveyed was a registered, operating business. This figure contrasts with the 240,760 figure from a 2002 Labor Force Survey which surveyed households as primary units, and which included all informal employment. This latter figure is much closer to yet a third employment estimate from the World Travel and Tourism Council (WTTC), a private sector advocacy group working to raise awareness of the importance of tourism to governments. WTTC estimates that 206,290 are employed directly in travel and tourism in Uganda with the figure rising to 420,064 when all the backward linkages, or induced effects, are considered.

Tourist Profile

In terms of holiday tourists, UK, USA, and South Africa are the most important source markets for Uganda, with India, Germany, Canada, and Holland also prominent (Table 4.2).

Table 4.2 Main sources of visitors by air by rank in 2004

Top 7 sources for HOLIDAYS	**Top 7 sources for VFR**	**Top 7 sources for BUSINESS**
1. UK (5,800) 2. USA (3,900) 3. South Africa (1,500) 4. India (1,200) 5. Germany (1,100) 6. Canada (700) 7. Holland (680)	1. UK (3,800) 2. USA (2,100) 3. Kenya (1,900) 4. India (1,200) 5. South Africa (850) 6. Germany (530) 7. Canada (470)	1. Kenya (4,400) 2. South Africa (2,300) 3. USA (2,100) 4. UK (2,000) 5. Tanzania (1,100) 6 .India (950) 7. China / Korea (450)
1.1.1.1.1.1	**1.1.1.1.1.3**	**1.1.1.1.5**

Source: Immigration Statistics (UBOS)j; figures are as stated on immigration cards.

The majority of "business" visitors stay a week or less while "holiday" and "VFR" tourists stay two to four weeks (Table 4.3). There is significantly more residual revenue from the longer stays. Studies from other countries[181] have also shown that the induced revenue from "holiday" tourists versus "business" tourists is as much as four times larger because of the range of goods and services they consume.

Table 4.3 Length of stay, expenditures and consumption of visitors arriving by air

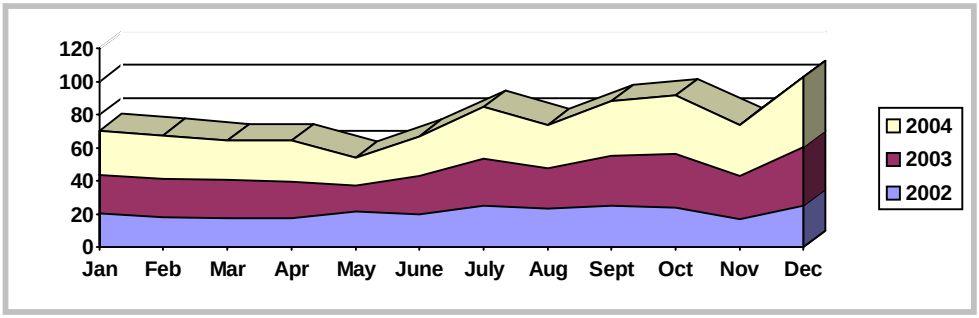
Category	Modal length of stay	Average spend (US$ per day)	Consumption patterns
Holiday - Independent	11-15 days	82	Attractions, national parks, white water
- Package	11-15 days	132	rafting, fishing, travel around the country
Business	5-7 days	145	Kampala-based (or other town)
VFR	11-15 days	68	Kampala-based (or other town)

Source: 2004 Immigration data and 2003 MTTI Expenditure and Motivation Survey.

Uganda does not have major seasonal fluctuations in tourist activity—which has major implications on carrying capacity—though there is a general increase in volume of about 25% from July through till December (Figure 4.3).

[181] Bryden (1973) and Curry (1990).

Figure 4.3 Tourism seasonality in Uganda 2002-2004, all borders (000s)



Source: Immigration Statistics, UBOS.

Tourism Activities

Uganda's current tourist product (and for the past 10 years as well) is nature-based and centered on distinct geographic areas. Several of these are linked to national parks or specific attractions, and activities such as white water rafting at the source of the Nile in Jinja. The *2003 Tourism Policy and Strategy* defines ten focal tourism districts where tourism potential and ongoing activity is highest (Figure 4.4). These districts contain the main tourist attractions and the main tourist towns that effectively function as distribution hubs for tourists: Kampala, Entebbe, Jinja, Mbale, Masindi, Fort Portal, Kasese, Kabale[182] and Kisoro.

Based on interviews conducted in the context of this study with tourism service providers and market surveys, tourists visiting only one national park made up the largest group of foreign tourists in Uganda in 2004 (Table 4.4). Adventure tourism attracted the second largest number of foreign tourists that year, dominated by white-water rafting and attracting also backpackers, overlanders, and those who use budget tours. Gorillas, a very unique tourism asset of Uganda's, was the fourth largest attraction with 1600 foreign tourists visiting only gorillas in 2004. More detailed figures on tourists visiting the various tourism hubs and attractions are given in Table 4.5. [183]

Nearly 50% of tourism consumption in Uganda is based on short excursions to one national park and only 10% of consumption is linked to extended tours in Uganda (Figure 4.5).

[182] Kabale is currently not included in the Tourism Policy as a focal district; MTTI has indicated that consideration would be given to including it in the future.

[183] Numbers provided in Table 4.5 are larger than those in Table 4.4 because typical tours take in more than two national parks.

Figure 4.4 Uganda's Tourism Attractions, Products and Circuits

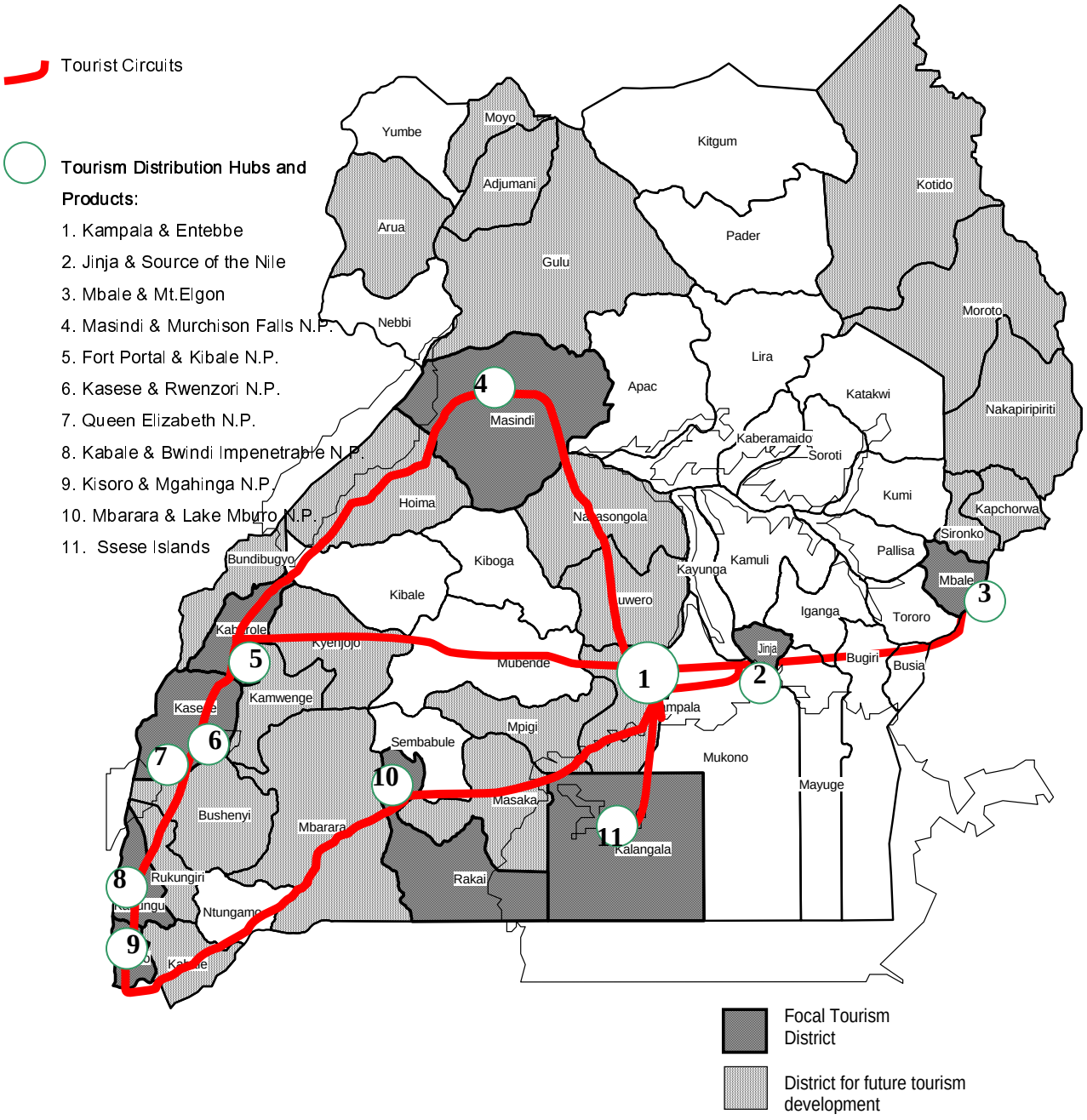
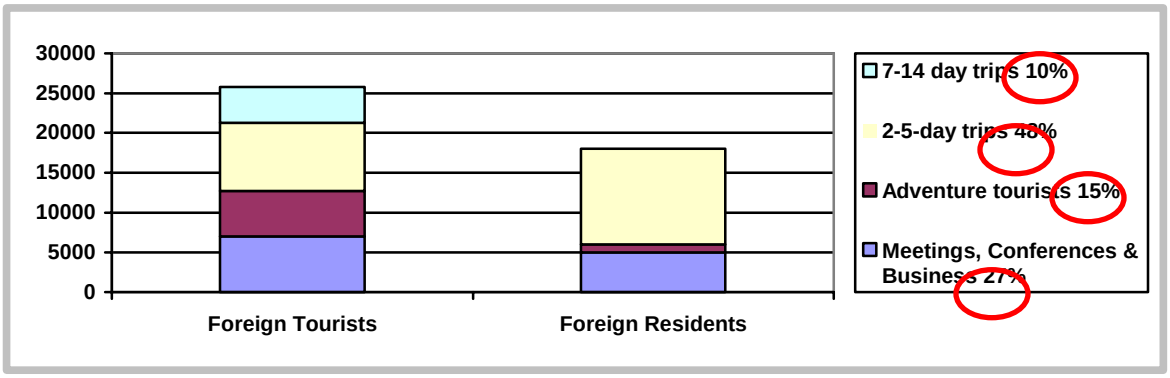


Table 4.4 Activities of tourists in Uganda in 2004

FOREIGN TOURISTS: Holiday, Business & VFR consumers of tourist products		
Tourists visiting only one national park	7,000	
Adventure tourists	5,700	white water rafters, backpackers, overlanders, budget tours
Tourists visiting two or more national parks	4,500	overlanders, all "tours", birdwatchers
Gorillas only	1,600	
Community tourism only	300	
Mountaineering only	250	
Sport fishing only	200	
SUB TOTAL	**19,550**	**The total number of individual foreign tourists consuming tourism products is estimated at:**
Meetings, conferences and events	2,000	
Independent business	2,500	
Development related	2,500	
SUB TOTAL	**7,000**	**26,550**
FOREIGN RESIDENTS		
Holiday trips around Uganda	12,000	**The total number of individual foreign residents consuming tourism products is estimated at:** **18,000**
Adventure	1,000	
Meetings and conferences	5,000	
SUB TOTAL	**18,000**	
TOTAL	**44,500**	

Source: World Bank estimates based on interviews with tourism service operators and information from market surveys.

Figure 4.5 Tourist consumption patterns



Source: 2004 Immigration data and 2003 MTTI Expenditure and Motivation Survey.

Table 4.5 Consumption of selected tourism attractions and activities during 2004

Tourism hubs and attractions	Foreign non-resident consumers		Foreign Resident consumers		Comments on data points (sources)
	Numbers	Rank	Numbers	Rank	
1. Kampala & Entebbe including Ngamba Island	3000	**7**	500	**5**	Chimp island visitors
2. Jinja & Source of the Nile	9000	**2**	1,000	**4**	White water rafters, 60% of whom do not go on to see gorillas
3. Mbale & Mt.Elgon N.P	600	**10**	400	**8**	National park entries
4. Masindi & Murchison Falls N.P.	4700	**4**	3,500	**2**	National park entries
5. Fort Portal & Kibale N.P.	4000	**5**	500	**5**	National park entries
6. Kasese & Rwenzori N.P.	300	**11**	100	**9**	National park entries
7. Queen Elizabeth N.P.	11,700	**1**	4,500	**1**	National park entries
8. Kabale & Bwindi Impenetrable N.P.	5,100	**3**	100	**9**	National park entries
9. Kisoro & Mgahinga N.P.	1,700	**8**	100	**9**	National park entries
10. Mbarara & Lake Mburo N.P.	3,800	**6**	1,500	**3**	National park entries
11. Ssese Islands	1,500	**9**	300	**5**	Interviews with accommodation owners
Sub-Totals	**36,400**		**13,000**		
New niche products emerging					
12. Bird watching	300		n.a.		Interviews with tour operators, seems to be a stand alone product, utilizing national parks, even Bwindi, but not dependent on gorillas
13. Sport fishing	200		150		Daily fishing permits sold by Murchison Falls N.P. and interviews with tour operators. A stand alone product not dependent on gorillas

14. Community based tourism	300	n/a	Small market of retirees for this stand-alone product. Interviews with tour operators
15. Meetings, Incentives, Conferences &Events	7,000	5,000	Rough estimates based on interviews with accommodation operators, airlines & tour operators
Sub-Totals	**7,800**	**5,150**	
Totals	**43,200**	**18,150**	

Sources: Various, indicated in right-hand column.

Tourism Infrastructure

Accommodations

Uganda has a total of about 1300 registered accommodation establishments,[184] with about 20,000 rooms and close to 30,000 beds. According to the 2002 Baseline Survey conducted by MTTI, average occupancy rates for the country were 13 percent; average room rate (for all establishments) was US$11 per bed per night, giving a total earned revenue estimate of US$15m. that year.

Of the total 1300 establishments, about 600 are in the tourism-centric districts and roughly 80 (in July 2005) cater to and are used by international tourists or foreign residents.[185] Slightly more than half of these are in Kampala, Entebbe and Jinja. Compared to the country average room rate of US$11, the 80 or so "tourist" establishments have an average room rate of US$44 and an average occupancy rate of 26 percent twice the national average of 13 percent and 4 times the achieved average room rate. Among tourist standard hotels and lodges, the occupancy rate was highest in Kampala, averaging 45 percent compared to 22 percent for all other focal areas.[186] The exceptions to these generally poor figures were establishments that had a good marketing mix and international distribution channels.

There is absence of any significant "high end" accommodation in Uganda, with the basic circuit in Uganda (Murchison, Kibale, Queen Elizabeth, and Bwindi) being able to accommodate nearly 700 tourists (from a total of 400 rooms) in 2-star plus accommodations, and over 1600 in the camping to 1-star range.[187] These figures, and the absence of any significant "high-end" accommodation, reflect the fact that Uganda's primary tourist market remains "low-end", which is consistent with the dominance of "backpackers" and "overlanders" in its tourist profile, for whom adventure tourist activities in Jinja is the main attraction. The current status of the tourism industry has clearly not achieved the objective of Uganda's 1993 Tourism Master Plan of making Uganda a "high-spending-low-volume" destination.

The fact that adventure, and relatively low-end (though not necessarily low-spend), tourism is the dominant feature of Uganda's tourism industry is further reflected in the low share of foreign non-African hotel ownership in Uganda compared to Kenya and Tanzania (Table 4.6). Although, there are some significant investments in the pipeline: Serena Hotels, the Aga Khan Foundation hotel group, has recently purchased the Nile Hotel and Conference Centre; the Green Wilderness

[184] Both the Uganda Business Inquiry 2000/1 and the 2002 MTTI Baseline Accommodation Survey confirm this number to within 10 percent of each other.
[185] Mann (2005).
[186] 22 establishments were contacted and interviewed briefly, 17 provided information on occupancies.
[187] Mann (2005).

Group (Canadian owners of Semliki Safari Lodge and Emin Pasha Hotel in Kampala) is investing in an up-market lodge facility in Kidepo.

Table 4.6 Percentage capital ownership of hotels in East Africa

Ownership	Hotels in Uganda	Hotels in Kenya	Hotels in Tanzania
State	10.53	6.45	5.45
Private sector (domestic)	68.42	69.42	61.82
Private sector (foreign African)	15.79	3.23	9.09
Private sector (foreign non-African)	5.26	20.90	23.64

Source: 2003 ICA survey data.

Air Transport

The combined annual capacity of incoming seats to Entebbe via four international airlines (one of which only started operations in November 2005 after a reported five-year negotiation)[188] is about 110,000, which is low compared with approximately 3.5m. incoming seats to Nairobi via 21 international airlines. The recent addition of the fourth airline to Entebbe demonstrates increased demand and, more importantly, confidence in that demand. Including airlines[189] operating through major regional hubs (Addis Ababa, Johannesburg, Nairobi, Cairo and Dar Es Salaam), total capacity is 249,000 incoming seats per annum.

Total arrivals in 2004 (from both international and regional flights) at Entebbe International Airport were 131,000, just over 50 percent of the 249,000 annual capacity (although the latter overstates the number of seats available since many incoming airlines "share" codes[190] with other countries). The Entebbe route runs between 70 and 100 percent full[191] and there is a real supply constraint during the peak holiday periods. The fourth airline will ease this somewhat, but there is still scope for expanding the supply of seats.

Tourism services

Travel agents and tour operators (including car hire companies) are the other primary trade tourism service providers after attractions, accommodation and airlines. In 2003, there were 162 tour operators and 151 travel agencies in Uganda, of which 143 and 151, respectively, were based in Kampala.[192] Of the 160 or so registered tour operators, only 35 are current members of the Association of Ugandan Tour Operators (AUTO),[193] all of whom are linked to medical facilities in Kampala including private clinics and emergency evacuation facilities. Only 16 are formally licensed (by MTTI) tour operators, conforming to standards set out in the existing tourism legislation. MTTI is responsible for registering and licensing both types of enterprises.

Local tour operators and travel agents in Uganda play a very small role in being the main distribution platform for tourism products compared with neighboring countries. In Kenya and Tanzania, tour operators and travel agents provide between 20-30 percent of business to lodges

[188] British Airways, Emirates, SN Brussels, and KLM which started in November 2005.
[189] Mann (2005).
[190] "Code sharing" here refers to the practice of an airline splitting seat capacity between destinations; for instance, Nairobi is preallocated 50% of the seats on every flight from Brussels destined for Entebbe.
[191] Based on interviews with airline managers.
[192] Based on the 2003 MTTI Baseline Survey of Tourism Enterprises (including tour operators, travel agencies, restaurants, airline offices, crafts and souvenir shops, and recreational facilities).
[193] AUTO membership requires members to pay annual subscriptions of Sh500,000.

and resorts, while in Uganda they provide only 7 and 3.5 percent, respectively (Table 4.7). Improving the capacity of Ugandan tour operators to access and operate in international markets is an important transition tool to develop Uganda's tourism sector.

Table 4.7 Sales Channels in Hotels (% of annual Sales)

	Kenya	Tanzania	Uganda
Airlines	6.17	36.71	**1.58**
Travel Agencies	29.20	23.18	**3.42**
Tour Operators	27.41	19.53	**7.05**
Walk-in business	32.04	19.53	**77.68**
Other	5.17	40.50	**10.26**

Source: 2003 East Africa ICA Data.

Policy and Institutional Framework

Policy

GOU has prepared a *National Tourism Policy and Strategy* and recently passed a *Uganda Tourism Bill* into legislation. The Bill is a measure to amend, consolidate and streamline existing laws[194] on tourism in Uganda and to give effect to the Tourism Policy approved by cabinet in May 2003. The vision of the Policy is for tourism to: be developed based on a wide participation of Ugandan and foreign investors; form the basis for protection of the environment including financial support for developing national parks and protected areas; and be developed in a socially and culturally acceptable manner.

Whilst the stated objective of the Policy is to define a new way ahead for tourism development, leading to an increase in the present level of tourist arrivals to Uganda from about 200,000 to about 500,000 during a 10-year period, it does not define how that growth will take place or who will implement it. The Policy states that growth will take place in respect of "holiday" tourism from about 25,000 tourists to approximately 100,000[195] after a 10-year period, but makes no effort to define what might attract those tourists (that is different from what exists now).

The Policy rightly places central importance on increasing safety and security measures as a major issue for tourism, but proposes no detailed strategy or action plan either for this or for the other major issues that have been identified. These other ones are: to improve the image of Uganda through a series of promotion and marketing actions; to introduce new and tailor-made organizational structures to provide an appropriate development framework[196]; to provide

[194] Including, among others, the Hotel Act, the Uganda Tourist Board (UTB) Statute, the Statute for the Hotel and Training Institute, the Tourist Agency Licensing Act, the Traditional Rulers Act, Historic Monuments Act, Public Health Act.

[195] It is assumed that this figure of 25,000 represents "holiday" entries via Entebbe (27,000 for 2004). The 2004 figure for total entries via all borders for "holiday" purposes was 86,000. The potential of domestic tourism to contribute to the top line figures is not well developed in the strategy and policy, yet has significant potential, particularly in the foreign resident and VFR categories.

[196] The *Tourism Bill* proposes that the "private sector shall develop a strong institutional framework with a high level of membership participation, payment of membership fees and support to an umbrella tourism association. This association is the Uganda Tourist Association (UTA). Through the proposed private sector funding mechanism (tourism levy), UTA shall establish a staffed office linked to the present marketing and promotion functions undertaken by UTB. Close working relations and collaboration shall be established with MTTI, UTB, Districts (Local Government and local tourism associations) and UWA in respect of tourism product development, tourism planning and protection of natural and cultural resources,

financial support through Government/MFPED and the private sector (tourism levy); and to solicit support from donors and NGOs to facilitate the implementation of the proposed "way ahead". With the exception perhaps of financing production and marketing, MTTI has little realistic influence over many of these cross-cutting issues.

Some progress is being made with support from the World Bank[197] and the EU[198] that has developed a marketing strategy and is contributing to ongoing product development. However, the Policy and supporting legislation fall short of targeting very specific actions that GOU or the private sector can undertake to address the major issues. Further work needs to be done by the MTTI to "flesh" these out, including a specific cost-benefit scenario and action plan for implementing the tourism levy.

Institutions

Several of the proposed reforms in the *Tourism Bill* indicate new structures (for UTB for instance) and new financing mechanisms (the tourism levy) that will have consequences within the current structures.[199] Of greater concern for tourism is the management of the National Parks where much of Uganda's potential tourist product lies. UWA, the statutory body responsible for managing Uganda's 10 National Parks and 14 Wildlife Reserves, has not demonstrated strong cooperation with the private sector, including not being open to new and innovative products proposed by the latter. The philosophy within the organization has been driven by a preservationist attitude rather than one of utilization. Whilst this is changing, for instance some previously UWA managed assets have been privatized (Paraa Rest Camp in Murchison Falls, Semliki Wildlife Reserve, Kidepo) and several others are under consideration (boat trips along the Kazinga Channel in Queen Elizabeth and along the Nile in Murchison Falls), the organization remains closed to many other ideas such as hot-air ballooning, house-boats, canopy walkways (see later in this chapter), improved camping facilities and increased joint management of National Parks.

Uganda's tourism private sector is composed of several stakeholder associations that in theory are all represented by the umbrella UTA. For the past decade, these respective associations have all struggled to maintain membership and validity with their constituencies. The industry is fragmented and not particularly cooperative when compared to countries such as Kenya, South Africa and Egypt, but very much typical of lesser-developed tourism destinations such as Zambia, Ethiopia, Mozambique, Malawi, Lesotho, Mali, Senegal, and Swaziland. The vision of integration foreseen by the *Tourism Bill* (footnote 38) is sound in premise, but will be difficult to achieve given the limited resources and capacity at the district level, and the disconnects between the national level UTA and the district level tourism associations.

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and with UIA for investment development. UTA shall provide support to its members in order to improve the level of professionalism in the industry".

[197] In the context of the Protected Areas Management and Sustainable Use (PAMSU) Project which financed the Tourism Policy and the "District Tourism Plans", both of which should contribute to financing promotion and marketing.

[198] In the context of the Uganda Sustainable Tourism Development Programme (UGSDTP) which is a four-year (2003-2007) Euro 5m. project directed at support to public and private sector in tourism.

[199] The Tourism Levy would be a fixed surcharge (currently proposed at 2.5%) placed on the bottom-line of all bills on accommodation, tourism services and food and beverage. It was proposed that the tourism levy replace the VAT surcharge billed by those enterprises.

4.3 MAIN ISSUES IN THE TOURISM SECTOR

First and foremost, the most important constraint facing the tourism sector is insecurity in the country as discussed earlier in the chapter, and as recognized by Uganda's 2003 National Tourism Policy and Strategy. In addition, there are several other overarching issues for Uganda's tourism sector:

- Coordination of GOU planning, implementation, policy development, and institutions related to the tourism sector
- Need for further product and infrastructure development
- Low levels of generated demand for leisure tourism to Uganda
- Weak skills among suppliers in the tourism sector

The first two issues are prerequisites for scaling up tourism in Uganda, while the third and fourth are ongoing weaknesses in the tourism supply chain that limit current demand.

Coordination of GOU planning, implementation, policy development and institutions related to the tourism sector

Government commitment has been important in promoting tourism in many developing countries. Botswana, South Africa, Egypt, UAE, Mauritius and Seychelles are examples where the governments (in particular ministries of finance) have been instrumental in developing the tourism sectors through their support and commitment to a tourism growth path. In Kenya, government support (through government funds matching a EU grant) of targeted marketing campaigns backed by solid research and based on sound positioning strategy has helped increase Kenya's tourism by 20 percent.

The case for tourism as a driver of growth and poverty reduction has yet to be made at the political level in Uganda. There are disconnects between the different arms of government at the national and the district levels for planning and implementing tourism development. Many government institutions have overlapping mandates for tourism. These include:

- MTTI (responsible, through its Planning Department, for planning the "development of tourism in Uganda[200]")
- National Planning Authority (responsible for national planning of economic growth sectors, of which tourism is specifically defined as one)
- UTB (responsible for marketing planning for Uganda)
- UWA (responsible for planning in national parks where much of Uganda's tourist product exists)
- Ministry of Local Government (responsible for resources to local governments, including those for planning)
- MFPED (responsible for national development planning and resource allocation)
- Ministry of Works, Housing and Communication (responsible for a National Roads Development Plan)
- Local District Administrations (responsible for actual implementation of anything at the district level)

[200] From the Vision Statement in Office of the Minister of MTTI.

For instance, it is not clear which of the above institutions is responsible for planning and making decisions for the allocation of resources for the construction of a connecting road between Queen Elizabeth National Park and Bwindi National Park (which passes through a national park), a vital piece of infrastructure for the tourism sector. With the exception of UTB, any of these institutions could request for financing and build the road. The ultimate decision probably rests with MFPED. MFPED would need sound economic justification to approve this project, which would require a much better understanding of the economic impact of tourism than can be provided by existing information on the sector.

As discussed earlier, official statistics appear to vastly over-estimate the true economic impact of tourism in Uganda. At the same time there is a complete lack of measurement of the multiplier or induced effects in the economy.[201] In particular, the impact of tourism at the district level, where perhaps the most impact is felt, is not known. Without an in-depth understanding of tourism markets, value chains, and direct, indirect and induced revenue impacts, there is no sound basis for planning for investment, such as infrastructure, or for making policy and institutional changes.

Finally, for the tourism industry to grow and develop, national and district level governments need to ensure that effective initiatives are operating in a number of areas such as safety and security of tourists, visitor management, licensing, standards and quality, information dissemination and data capture, product and infrastructure planning and development, international relations and linkages, labor and training, community awareness, and policy and legislation. Many of these initiatives depend on resources coming through MFPED either to the line ministry or, as is increasingly the case, directly from the district, where much of the infrastructure, for instance, may be required.

Need for further product and infrastructure development

Growth in the tourism sector in Uganda cannot, and will not, take place without focused and innovative product (and market) development. Currently, tourism demand is focused on white-water rafting, gorilla viewing and Queen Elizabeth National Park, which are close to saturation in terms of their ability to absorb further demand (relative to occupancy percentages elsewhere in the country); white water rafting is at 50 percent of its potential (could increase from 10,000 to 20,000 per annum), gorilla tracking is at 70 percent (could increase from about 5,000 to about 7000 per annum), and accommodations in Queen Elizabeth National Park[202] have average annual occupancies of 60 percent (could increase from about 30,000 bed nights to about 50,000; at an average 2-night stay this means a possible increase of 10,000 tourists). At the same time, however, other tourist areas such as Murchison Falls National Park (with the exception of the low cost Paraa Rest Camp that has occupancies averaging 75 percent), Rwenzori Mountains, Kibale National Park, and Ssese Islands, accommodation supply far exceeds demand with average occupancies below 20 percent. The example in Murchison Falls National Park shows that the demand and utilization of low cost accommodation is far higher (75 percent occupancy) than the "high-end" lodges (20 percent occupancy). There is a need to expand the options for accommodation availability to include a mid range that caters to the VFR, foreign resident and domestic resident markets (see next para.) which might not be willing to "rough it" in low cost camping-style facilities, but would be willing to pay a little more for some standards.

[201] There is insufficient data available in Uganda to measure economic multiplier effects (backward linkages, or secondary effects, to the economy from primary tourism industries such as accommodation, transport and activities) from tourism, as a proxy, a recent study from Gambia estimated the multiplier factor to be 1.8, this is used here to give a rough indication.

[202] Mweya Lodge, Jacana Lodge and Ishasha Luxury Camp.

Development of the domestic resident tourist market could play an important role in the development of Uganda's tourism industry, although spending by domestic resident tourists (being in domestic currency rather than foreign exchange) is not captured in tourism revenues. In Uganda, the increasing middle class has the spending power for domestic tourism; this should be developed and captured to contribute to economic growth. Further, domestic residents could be important for supporting the tourism industry in the event of downturn in international tourism.

Uganda has several tourist products that allows it to differentiate itself from its neighboring competitors (Kenya and Tanzania); these are also products that are attracting independent travelers and keeping "package" tourists away. Its product and market development needs to focus on these products both as "stand alone" Ugandan products as well as those complementary to the East African regional offer:

- Mountain gorillas
- Easy access to chimpanzees
- Murchison Falls
- White-water rafting
- The River Nile
- Lake Bunyonyi
- Biodiversity-rich tropical forests
- Lakes Albert, George and Edward, all in or near National Parks
- The Ruwenzori Mountains
- The Semliki Hot Springs
- Lake Victoria and the Ssese Islands

There is some tourist activity in and around all of these product areas, but it is very basic. Accommodation, interpretation, visitor management, marketing and access are lacking to varying degrees, as well as in depth, imagination and innovation. Tourist infrastructure and appropriate investments around them have not been well planned. For example, the road between Queen Elizabeth and Bwindi remains impassable during the rainy season and difficult for anything but a four-wheel drive vehicle when dry; the road to Semliki restricts passage during the rains; the ferry service between the mainland and the Ssese Islands is unreliable; and there is no scheduled tourist transport between Kampala and any national park. Some product development is the responsibility of GOU, while some can be done by the private sector and some may be suited to public private partnerships. Recommendations in the next section will clarify the respective roles.

Low levels of generated demand (regionally and internationally) for leisure tourism to Uganda

The overall issue of sustained marketing resources (as opposed to those that come with specific donor packages and last a couple of years) must be addressed in Uganda. Marketing and promotion are often overlooked when countries establish a tourism sector, yet without it demand may never be generated for the product in sufficient quantity for it to be viable. Both the public (UTB) and the private sector (the service and accommodation providers) have a role in this international promotion. Both are technically weak and financially constrained in Uganda.

It is evident (with a few exceptions, such as white water rafting operations, bird watching operations and three or four general tour operators) from interviews with the private sector that there has been little effort to research markets and develop professional marketing plans before embarking on tourism investments in Uganda. The expense of market research may be a

contributing factor, but it is also likely that awareness of the workings of the international tourism industry is low among Ugandan tourism service providers which have little international tourism exposure.

Uganda's presence in tourism markets is a series of ad hoc products that are picked up and promoted in a range of markets. 5 of the 35 tour operators belonging to AUTO are actively marketing in a range of source markets, another 15 focus on one or two source markets or particular niches (such as bird watching), while the remainder do not make any effort to sell internationally and exist on sales to the local market and independent travelers. *This is too few to be making an impact*. This is because the tourism markets are flooded with offers from competing destinations, and weak products and messages have little chance getting through to consumers. Basically, "gorillas" is the only message getting through—a recent consumer survey carried out under the UGSTDP[203] showed that the level of information and awareness about Uganda's tourism does not extend much beyond gorillas. What is needed is the promotion of Uganda's tourist products in an industry cluster.

Many countries (such as Kenya, Mauritius, South Africa, Tanzania, and Egypt[204]) hire public relations firms specialized in tourism marketing to handle their advertising campaigns in major destination markets, but Uganda has not done so. Uganda appears to be doing well in the U.S. market, but its Embassy in the U.S.A. gives little attention or support to the creation of tourism linkages with the industry in the U.S.

Although Uganda has a strong appeal in the emerging "adventure" tourism segment which could grow significantly in the medium term (at least it could double based on white-water rafting capacity alone), this specific segment is not included in either the UGSTDP Marketing Strategy 2004-2008, nor is it discussed in the 2003 Tourism Policy and Strategy document.

Finally, the private sector is also responding weakly to the domestic residents, foreign residents and VFR market (for example, scheduled transportation packages to national parks). These are an important source of consumption for visitation and accommodation in national parks, as well as an opportunity to contribute to year-round occupancies.

Weak skills and service delivery among suppliers in the tourism sector in Uganda

Firms in the tourism offer supply chain (for example hotels, in-bound tour operators and transport providers) in Uganda are all small and relatively underexposed and inexperienced with international tourism. With a few exceptions, operators in Uganda are not actively working with international agents or independently marketing their products and services in key target markets, as discussed earlier (Table 4.7).

Many of Uganda's tour operators and accommodation owners have a "shop-keeper" mentality with regards to sales of tourism products; they sit on their inventory and wait for customers, they do not generate demand. This can be attributed to the quick re-entry Uganda made into tourism in the mid-1990s triggered by the high demand for gorilla tourism. International tour operators were able to sell trips to Uganda because of the high demand for gorillas; Ugandan companies capable of transporting clients to and from the airport, to hotels and to the gorillas were needed at the time. Many of the operators who started their businesses then were able to fit quickly into the supply chain that was demanding these ground handling operations. Partly as a consequence of

[203] UGSTDP Marketing Strategy Report 2004-2008, TTC Consultants, Dublin Ireland
[204] World Bank (2003c).

this external focus, the foreign visitors in the domestic market (both resident and visiting for business or VFR) have largely been ignored as a potential source of business, particularly by tour operators. There is a need to both study the needs and size of this market and help tour operators exploit this opportunity through providing scheduled transportation to national parks and perhaps a web-based consolidated delivery and information platform.

As tour operators have matured during the past decade, they have gradually tried to take on more of the supply chain, getting involved both with marketing and supplying accommodation. Their skills in these areas are weak as they have little exposure. The same is true of the companies that entered the tourism supply chain through providing accommodation; many of these owners did not come from a tourism background but were opportunistic and provided a vital piece of infrastructure needed at the time. With the exception of hotels and lodges that have hired international management, operating skills are weak throughout the accommodation sector. Even hotels with international managers have neglected other departments (such as sales and marketing) and opted to hire locally (and pay poorly) where the necessary skills are absent.

Visitor and industry surveys conducted during the preparation of a Tourism Skills Needs Assessment Study in 2003 for gaining a comprehensive picture of the current and future training needs of the tourism sector found that overall, visitors had a positive impression of Uganda and felt that the standard of service was acceptable. Where standards were considered to be lower than acceptable or average they were made up for in friendly service. The most commonly identified training needs across all areas (including the Immigration Dept., taxi drivers, restaurants, hotels, lodges and tour guides) were:

- Customer Relations
- Communication Skills
- Foreign Language Skills
- General Tourism Information

According to the industry operators interviewed for the present study, training should focus on the development and training of existing staff. The most urgent training requirements are in the areas of: food preparation and production; health, hygiene & safety; computer skills, including administration and front office programs; customer care and customer relations; salesmanship and marketing; supervisory skills; product knowledge.

4.4 RECOMMENDATIONS

Recommendation 1: Improve security

GOU needs to formulate specific measures to improve security and safety in the country, particularly in the north. Development partners may have a role in assisting with the training of security personnel and providing up-to-date equipment and communication systems. Without such improvements, Uganda will continue to have a negative image as a tourist destination in the rest of the world and tourism development will be inhibited.

Recommendation 2: Define and implement a product development strategy

Within the context of current levels of tourism in Uganda and in the region, five market segments have the potential to deliver increased tourism revenues within the next five years. However, individual growth strategies are needed for each segment which will require: (i) market analysis

(or market intelligence reports); (ii) detailed cost benefit analysis (including infrastructure requirements); and (iii) value chain research. This background analysis is essential in determining potential growth and what constraints there might be to that growth. Value chain analysis is particularly useful in identifying very specific areas of weakness (or strength) in a particular supply chain; in this case one linked to a specific market segment such as adventure tourism. Depending on the rate and extent of new product development to support the individual strategies, Uganda can expect to double current levels of tourism (see next section).

The five segments are:

- **Adventure/activity-based** tourism
- **Regional packages** currently on offer (this would be suited to a value chain approach that focuses on the key bottlenecks and competitiveness)
- **Foreign residents** and their visiting friends and relatives (there is a need to analyze the size of this market, its needs, spending patterns, expectations, and so on)
- **Specialized activities** such as hot air ballooning in Kidepo, forest canopy walkway development in Kibale, mountaineering in the Ruwenzori Mountains, luxury camping in Queen Elizabeth, luxury island resorts in the Ssese Islands on Lake Victoria, fly-in safaris to Kidepo
- **Domestic residents** (there is a need to analyze the size of this market, its needs, spending patterns, expectations, and so on)

Each of the above market segments has distinct information and distribution channels for sales and marketing. Each also has distinct requirements and expectations as a consumer grouping (including standards of accommodation). These need to be taken into account through a product-specific growth strategy.[205]

Guided by these strategies, the private sector should respond to the opportunities for mid-range accommodation through up-grading existing properties or more flexible market-oriented pricing policies.

Recommendation 3: Policy changes for private tourism development

Inside National Parks, Forest and Wildlife Reserves (Protected Areas)

Strengthen cooperation between the private sector and UWA in the development of new and non-traditional products to boost the creativity, and hence, competitiveness, of Uganda's tourism industry. It is recommended that the Wildlife and Forestry Authorities participate and incorporate in their planning the targeted tourism development segments (for instance improving camping facilities). The examples below have previously been presented to UWA by private sector investors and have yet to be approved.

- Increase the numbers of tourists viewing gorillas and chimpanzees. Currently, there are limits to use established by researchers, based on mitigating prolonged exposure to humans which is shown to have behavioral as well as disease transfer risks. The limit of six tourists is however somewhat small considering that groups of 12-16 individuals (tourists + guides + security) do not seem to bother the apes. Consideration (or at least

[205] The example of bird-watching tourism in Uganda illustrates what a focused growth strategy can deliver. Within 4 years of initiation, the number of bird watching tourists to Uganda has risen from almost zero to about 300. There are now six specialist Ugandan companies handling these clients.

further research based on practices elsewhere in the world) could be given to larger groups of tourists (say 10-12) setting out and then alternating viewing, five or six at a time, when they approach the gorilla groups.

- Tender out private management of gorilla permit sales. Gorilla permits are in high demand and currently bookable two years in advance through UWA. Despite this, the usage of permits annually has been around 70 percent. Interviews with tour operators and UWA indicate that there is speculative buying of the permits ahead of time by tour operators who then are unable to sell and return them to UWA, who in turn are unable (or not motivated) to sell the surplus at short notice. The sales of permits should be handled by a private firm who perhaps could offer UWA a guarantee for 75 percent of permits at the current price (US$360). This would at least guarantee that more permits were sold, but also provide incentives to the firm to adopt innovative and creative sales and marketing options.
- Tender out private or co-management of selected National Parks and Wildlife Reserves. Privately-run game reserves (in Kenya, Tanzania, Botswana, Zambia, Namibia, Mozambique and South Africa) have been more effective in promoting and operating tourism activities and facilities without detriment to the natural resource. The incentive structures for privately-run game reserves actively encourage conservation efforts and community relations around the protected area.
- Provide sites for exclusive luxury camping (such as Ishasha in Queen Elizabeth N.P.). Exclusive luxury campsites are one of the strongest revenue streams for national parks in Kenya, Tanzania, Botswana, Zambia and South Africa. UWA has identified several during the management planning process for various national parks, but has not followed up with publicizing these sites and providing a reliable booking system. Demand for this product is high in other parts of Africa. Uganda could piggyback on this demand by selecting sites in Kidepo, Murchison, and Queen Elizabeth National Parks.


- Create concession opportunities for mid-range accommodation by tendering out facilities currently managed by Uganda Wildlife Authority or Uganda Forestry Authority to the private sector.
- Tender out opportunities for hot air ballooning in National Parks. Hot air balloon trips are available in Kenya and Tanzania and have significant demand (in Kenya more than 12,000 tourist take these trips per year). Kidepo, Murchison, Lake Mburo and Queen Elizabeth National Parks all have the potential to support this activity. Lake Mburo would be a good option to start as it is closest to Kampala (3 hours) and the foreign resident/VFR/domestic resident market.

- Tender out the development of a forest canopy walkway:

Kakum Canopy Walkway in Ghana; the only one in Africa

Canopy Walkway in Peru

As a unique way to experience the rainforest, the Kakum Canopy Walkway in Ghana has greatly increased the number of national and international tourists visiting the park. In 1992, fewer than 2,000 people visited the park. By 2004, 120,000 visited in a year, and a recent survey produced by Conservation International,[206] the implementing partner for the canopy walkway, showed that tourists were coming to Ghana specifically to experience the canopy walkway. By charging admission for tourists to experience the walkway, local people have found an alternative to negatively exploiting their resources. In addition, this increased visitation brought new jobs and revenues benefiting efforts to preserve the endangered rainforest ecosystem. With its variety of primary forests rich in biodiversity (far richer than Ghana for instance), Ugandan forests are prime candidates for one or more canopy walkways. Conservation International should be approached as a potential partner in developing this walkway project.

- Tender out efficient mountaineering services to foreign firms with experience in the segment. With only about 300 yearly climbers, the Ruwenzori Mountains are completely underutilized (Mt. Kenya and Mt. Kilimanjaro receive about 40,000 visitors each per year). Part of the problem has been the quality of supporting infrastructure in the mountains and the quality and reliability of the guiding services currently on offer.

[206] Conservation International has initiated and managed several canopy walkways around the world and they have a program of support in Uganda.

- Adopt houseboat concessions in National Parks. Houseboats are popular through Africa, Australia, Europe and the U.S. They are relatively cheap (compared to a hotel) to build and operate and would have a ready market with domestic residents, foreign residents as well as the adventure segments.


- Provide serviced campsites in National Parks. Current campsites in national parks are poorly serviced in terms of availability of toilets, water and cooking areas. Considering the market segments currently visiting Uganda and the willingness for foreign residents to experience camping with their friends and family, this relatively inexpensive infrastructure would boost tourism numbers considerably.

Outside Protected Areas

Similar products could be defined outside protected areas and it is recommended that District Tourism Plans (completed for two of the 10 focal tourism districts[207]) are completed for all districts and incorporate the strategies recommended here.

It is recommended that rail, water and air linkages with the East African region are improved through public private partnerships. The following should be considered:

- Passenger coaches on the newly privatized Uganda Railways.[208] Luxury rail journeys are profitable and in high demand in Southern Africa. The recent privatization of Uganda Railways to a South African consortium provides an opportunity to initiate a dialogue on the inclusion of passenger coaches.



Cape Town to Dar Es Salaam (8000 passengers per year)

[207] Financed jointly by the EU and the World Bank.
[208] There are several examples in Africa where this has been very successful: Rovos Rail and The Blue Train (both Southern Africa), the trip from Nairobi to Mombassa on Kenya Railways.

- Improve the existing ferry service on Lake Victoria between Mwanza in Tanzania and Port Bell in Uganda, to offer more stops at regionally strategic ports where tourist have quicker and easier access to products, for example, Kisumu in Kenya, Musoma, Guta (access to Serengeti National Park), Rubondo Island, Muleba and Bukoba (access to Rwanda and north-western Tanzania) all in Tanzania and offer a pick-up option in Entebbe and Jinja.
- Propose an "East African National Parks Air Safari Route" specifically for high-end tourists that allow the purchaser of a ticket to be issued with a special visa for all three countries. Destinations for this could include more than 25 national parks in the East African region. The public private partnership dimension would include the governments' cooperation on the common visa (or immigration facilities at selected airstrips), private sector accommodation owners, tour operators and ground handlers.

Air Safaris around East Africa:

Intercontinental Entry Ports:

- Nairobi
- Mombasa
- Malindi
- Dar es Salaam
- Kilimanjaro
- Entebbe

Regional Entry Ports in Uganda:

- Murchison Falls N.P.
- Kidepo N.P.
- Queen Elizabeth N.P.

The low availability of diverse tourism products in Uganda limits its tourism development as competing countries continue to expand their product portfolio and market share. The recommendations proposed here focus on products that are both feasible to develop and complementary to resources and opportunities available. There are also important employment and revenue generation opportunities linked to a program of product development. Based on experiences in other countries, products like the forest canopy walkway and activity-based facilities that can be operated and owned by communities have the potential to make significant local economic impacts provided they are linked to mainstream tourism marketing and services.

Recommendation 4: Increase awareness and demand for Ugandan tourism products

Generally, Uganda could be doing a lot more to market its existing products. Constraints to this are financing and skills. Both need to be addressed at four levels: (i) *destination* (Uganda and all it has to offer); (ii) *products* (product definition and pricing; packages including mountains,

gorillas, chimpanzees, the Nile, the Lakes, national parks, etc.); (iii) *specific niche activities* (camping and adventure around Uganda, mountaineering in Uganda, luxury and exclusive safaris around East Africa, etc.); and (iv) *specific target segments* (for example foreign residents, VFRs, and domestic residents).

Financing

It is recommended that part of *the tourism levy* be allocated to this activity including the hiring of PR firms in source markets. These contracts should be carefully negotiated to be results-oriented and based on column-inches of publicity, minutes of media coverage, and visits of journalists to Uganda. Since smaller firms (including hotels and lodges) have the most difficulty in absorbing advertising costs, they should be assisted through the levy with joint promotion and marketing, combined with a joint computerized reservation system.

Skills

Tour operators (and to a large extent sales staff attached to hotels and lodges) in Uganda lack basic sales and marketing skills which is affecting their ability to enter and perform in international markets. Targeted sales and marketing training is required covering the following aspects of destination management:

- Identification of profitable market segments
- Creation of appeals that resonate with visitor benefits
- Establishment of strategic alliances and public-private partnerships
- Preparation of action-oriented marketing plans
- Recognizing opportunities in tourist spending patterns
- Tracking preferences of target visitors
- Adding value to natural and cultural attractions
- Linking attractions together
- Benchmarking and countering competitor strategies
- Measuring the performance of marketing campaigns
- Determining returns on marketing investments

In addition, there is a need to strengthen skills in food preparation and production; and in health, hygiene and safety.

Recommendation 4: Implement a system to measure the impact of tourism in the economy

In order to attain greater GOU buy-in at all political levels, tourism's contribution to the economy of Uganda, including its linkages to poverty reduction objectives, needs to be monitored and reported more openly and accurately. The Tourism Satellite Account is recognized internationally as the optimal method for measuring the economic contribution of tourism and as an important information base for tourism analyses; however, it requires a robust national accounts system more suited to developed economies. The recommendation for Uganda is that a less complex and less expensive-to-administer system be implemented. The creation of this system involves two basic operations: (i) collection and sharing of information; and (ii) analysis and presentation of this information within the National Accounts framework.

Collection of information requires the following:

- An information sharing system between UBOS, UTB, URA, MTTI, UWA, foreign visa-issuing missions, regional and district municipalities and the private sector
- Annual exit surveys (expenditure and motivation surveys)

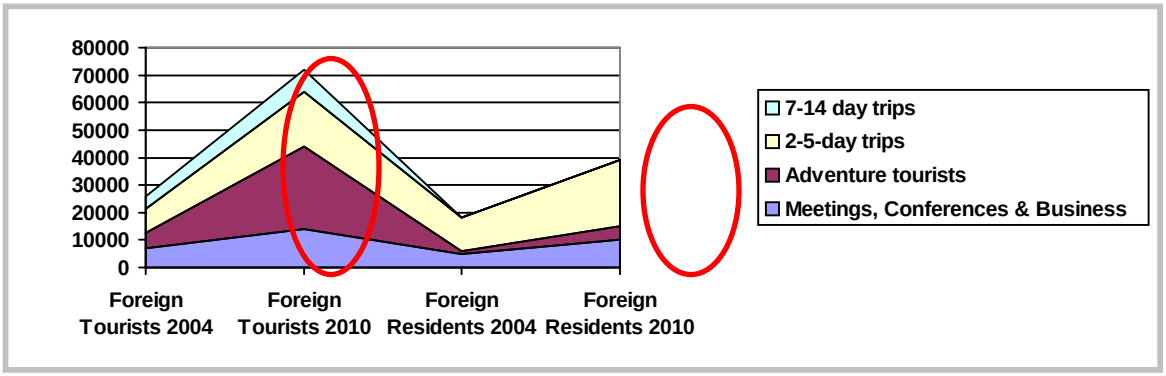
The analysis of this information needs to be carried out jointly by MTTI, BOU (Balance of Payments Department), and MFPED (Tourism Desk). Collecting the data in this fashion will allow some interpretation of the *distributional* aspects of tourism income at a regional level. A methodology similar to "poverty mapping" could be adopted to allow the economic impact of tourism to be measured at the district level.

4.5 CONCLUSIONS AND EXPECTED OUTCOMES

It is expected that implementation of the recommendations will lead to substantial growth through two channels: improved and more efficient operations in the supply chain of existing tourist products; and new products attracting new tourists. It is also expected that better information on the economic impacts and linkages to poverty reduction strategies will strengthen GOU coordination and planning in the sector. It is expected that by monitoring growth in both revenue and employment through the key data points identified (UBOS, UTB, URA, MTTI, UWA, foreign visa-issuing missions, regional and district municipalities and the private sector), tourism can be shown to contribute to district level development objectives such as increasing employment levels and incomes (at the moment there is no recognition, at the district level, of how tourism activities link to these objectives.

Adventure tourism and 2-5 day trips are expected to be the key growth segments for Uganda tourism. Business (in particular conference) tourism and longer trips are expected to grow less, as they will continue to face severe competition from Kenya and Tanzania as both are better marketed and have easier and cheaper international access . Conferences are a key target group for the Serena Hotels Group currently rehabilitating the Nile Hotel and International Conference Center in Kampala; this segment will grow through the efforts of the Serena Group, and the rest of the industry should benefit through being able to offer short excursions to conference delegates.

Figure 4.6 Key estimated growth segments 2005-2010



The higher growth rates for adventure tourism and short (2-5 day) excursions are based on the assumption that products will be created and improved, and sales and marketing skills will be developed to target: (i) regional tour operators to include short excursions to Uganda as an add-on to an East Africa safari product; (ii) foreign residents and their visiting friends and relatives; and (iii) business and conference visitors with short excursions; and (iv) domestic residents.

The effects of implementing these recommendations are expected to be as follows.

1. Uganda is positioned in the market as the adventure and activity tourism hub for Eastern Africa within five years with an additional 25-30,000 tourists consuming adventure tourism products that include white water rafting, canoeing, kayaking, mountaineering, mountain biking, trekking, camping and bungee jumping. The provision of these products will build strong community linkages and benefits.
2. Uganda positions itself with the international tourism suppliers as a specialty fly-in/fly-out add-on to other East African countries, including Rwanda.
3. Product suppliers' focus on the foreign resident market with a range of short excursion offers and "family" oriented packages that take advantage of innovative "e-marketing and sales" techniques.
4. A total increase in consumed "ticket items" (each individual activity item such as park entries, bungee jumps, bird-watching tour, mountaineering tour, fishing tour) from roughly 60,000 currently, to roughly 120,000.
5. Clear and costed marketing strategies. Without defined and targeted marketing strategies for specific market segments, it is difficult for the relatively small private sector operators to know where the best "bang for their buck" is.
6. Demonstration of tourism's value-added in a framework that integrates tourism with the rest of the economy. This should provide policy makers with an improved measure of the contribution of tourism to the Ugandan economy and a basis from which to compare the performance of tourism across countries, and with other activities within a country.

APPENDIX

Appendix 1: Horticultural and floricultural success factors in other African countries

This Appendix summarizes the main comparative and competitive advantages of Kenya, Zimbabwe, Zambia, Tanzania and Ghana, the most important issues they had to address, and identifies the key drivers and success factors.

KENYA

Of all the countries in sub-Saharan Africa, Kenya has probably the most natural comparative advantages (that is, climate) and when coupled with cheap air freight rates[209] during the early days of establishing the sector and a dynamic private sector, it allowed Kenya to develop an horticultural and floricultural export industry that is regarded as being the "world's leader". Now that some of the comparative advantages have been eroded (for example, freight[210] and labor rates[211]), it has developed sufficient competitive advantages to still retain its pre-eminent status as the continent's leading vegetable and floricultural exporting country.

Vegetable exports started in the mid 1950s – with Asian vegetables being exported to the UK. Much of this trade was organized by Kenyan-based exporters selling to family relatives in the main London wholesale markets. This business expanded through the 1960s and 1970s and the range of produce increased to include green beans, mangetout and, in the early 1990s, runner beans. In the 1990s, the exporters started to increasingly add-value by creating pre-packs, mixed packs and topping and tailing the beans and the mangetout, specifically targeting sales through the major supermarkets. Over the last five years the development of vegetable exports has focused on the preparation of "prepared packs" produced in high-care facilities. Since 1999, there has been a rapid increase in the exports of high-value mixed vegetables and shelled peas – products that are targeted at the "cash rich, time poor" European consumer. The industry that was once characterized by many exporters – many who were simply "briefcase traders" – is now concentrated in the hands of a limited number of highly professional companies who contract production and implement the latest quality, hygiene, social and environmental standards demanded by the European supermarkets and retailers.

Kenya's first significant flower export operation was a large carnation farm at Naivasha. In the early 1980s, a range of other cutflowers was introduced – and this led to very significant investments, especially in cut-rose production. Throughout the late 1980s and early 1990s, the cutflower industry became established and many of these initial investors enjoyed good returns. The investment in cutflower production is still increasing dramatically as energy and labour costs rise in Europe and as the Kenyan industry strives to continue improving its yields and quality. Even though the industry has grown rapidly and is generally regarded as being very profitable, some farms have had financial problems. In the late 1990s and early 2000s, some flower farms were regarded as "non-performing"; however, recent changes in the USD to Euro exchange rate have helped some of the less well-managed farms to generate profits[212]. This does, however,

[209] Initially due to utilising spare cargo capacity on passenger aircraft and then backloads.
[210] As the volume of north-bound freight became greater than in-bound cargo from Europe.
[211] As the workforce negotiated better rates as their skills improved and as the industry expanded, new entrants had to pay more to attract at least part of their workforce that had appropriate experience.
[212] As the USD has weakened against the Euro and sterling, this has benefited exporters in a number of ways. As the Kenyan currency is linked to the USD and most of the revenues from Kenya's cutflower and vegetables are denominated in Euro and sterling respectively, the revenue in local currency has increased

demonstrate that even with the significant natural comparative advantages of Kenya, good management is still needed to exploit the opportunities.

Kenya's success factors include:

- **Climate** – Kenya has relatively constant temperatures through the year giving opportunities for all-year-round production – combined with a range of altitudes within a relatively short journey time of the international airport at Nairobi; a wide range of crops can be grown, so it is relatively easy to prepare mixed packs of vegetables. The climate is also suitable for a wide range of floricultural crops.
- **Freight** – The early years of Kenyan horticultural exports were assisted by utilising the surplus freight capacity on passenger aircraft that flew into Kenya on the back of a thriving tourist industry. When exports expanded beyond the capacity that could be carried on passenger aircraft, the industry was able to backload on aircraft delivering freight to Nigeria, South Africa as well as aid to various distressed countries in the region. Now the perishable freight exports from Kenya are much greater than south-bound volumes – which mean that the freighter aircraft routes are now driven by north-bound cargo[213].
- **Externalising money** – From the 1950s to the early 1980s, a key driver to the success of horticultural exports was the desire to externalise money (ie, retention of foreign exchange outside of the country, an act that was against foreign exchange regulations at the time). During this time, the Government established export prices for the main export products that exporters had to return to the country. However, Government set a price that was slightly below the average selling price, enabling exporters to retain a small amount of money out of the country. This driver has now fallen away, but it was an important incentive for originally establishing the sector.
- **Private sector** – Since Independence, Kenya has had a large and competitive private sector – in both the farming and in the service communities. Consequently, there were many farmers who could respond to market opportunities and a service industry that could supply competitively priced inputs. Also, the success of many of the initial investors gave the banks confidence to continue lending to the sector. Because of its effective private sector, the high level of management and business skills has allowed the industry to develop competitive advantage as some of the initial comparative advantages (ie cheap air freight and labour) have been eroded.
- **Government support** – Government played an active yet subtle role in encouraging exports. First, it helped provide an incentive by allowing small externalisation of foreign exchange; it helped with infrastructure (such as roads, rural electrification and the building of a cold store at the airport). Perhaps more importantly, it has allowed the industry to develop unhindered by excessive regulation and taxes. Some Government bodies, such as the Horticultural Crops Development Authority (HCDA) and Flower Producers and Exporters Association of Kenya (FPEAK) have helped support the industry by reacting to the industry's needs; in other words they have not attempted to lead the industry. These associations are now funded by exporters and are driven by the industry for the benefit of the exporters. The Government did not provide direct financial support to the industry, but allowed it to develop without constraints.
- **Donor support** – The Kenyan industry was established with very little donor support. Since the industry has been recognised as being "a success story", some efforts have been

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significantly. Also, the most important direct cost, air freight, which is also denominated in USD, has become a smaller percentage of the revenues.

[213] Some freighters regularly fly from Europe to Kenya empty to collect perishable cargo.

made to encourage small-farmers to become part of the supply chain and help has been given to some exporters to meet the minimum pesticide residue levels. The USAID-funded Kenya Export Development Services (KEDS) project helped support some of the smaller companies remain competitive, which contributed to the critical mass of the industry. Examples of the KEDS support included the provision of market information; establishing some initial training programmes to facilitate social, environmental and hygiene standards; provision of grants for innovative research, and support for the establishment of FPEAK. But generally, the Kenyan industry has reached its current level with very little donor support. However, recently, even the larger exporters are benefiting from the EU-funded Pesticide Initiative Programme (PIP), which is designed to enable small-farmers who are supplying the large exporters to meet the traceability and safety standards demanded by the European buyers. Much of the PIP support is in the form of providing support for training and establishing systems[214].

- **Economies of scale and considerable experience** – Kenya's long and successful history means that it can benefit from economies of scale, which is especially important for freight and input costs and the availability of other services for the farmers.

In summary, Kenya was endowed with the very significant comparative advantages of good climate, available and affordable freight capacity, and a large private sector-base of agriculturalists and service providers to give the necessary management and business skills to turn these comparative advantages into a thriving business. However, the mistake is often made in assuming that other countries can follow the same model as Kenya; this is impossible. The Kenyan industry was established at a time when profit margins were much higher and it has become the industry leader. Other countries that want to start horticulture and floriculture export industries have to develop strategies that are relevant to today's issues and opportunities and not to compete "head on" with Kenya. Once these countries have established themselves in exporting horticulture and floriculture products (typically different from those of Kenya's), they would then have a basis from which they can compete with Kenya.

UGANDA

Uganda has had a much more troubled political and financial history than Kenya; and therefore it was much later in trying to follow its neighbour's success in the development of export horticulture and floriculture. Some investments were made in the late 1980s and early 1990s, but many of these first attempts were not successful; however, Uganda has now established a niche for certain products. Its success has been based on the following factors:

- **Climate** – The climate around Lake Victoria is different from the main horticultural and floricultural areas of Kenya. This means that the initial attempts to establish temperate vegetable exports failed. Similarly, the flower farms that tried to follow the Kenya rose model producing "intermediate" varieties also failed. However, once the climate was better understood, the flower farmers invested in sweetheart roses, which were profitable and led to the recent expansion of the industry. The Ugandan climate is also exceptionally good for the production of chrysanthemum cuttings – and a successful cuttings industry has been established. The vegetable exporters then started successfully growing sub-tropical vegetables.

[214] Support through PIP is available to other African countries that are exporting horticultural crops to the EU.

- **Donor support –** The non-traditional high-value export industry received 12 years support from two USAID-funded projects[215] – from 1992 to 2004. These projects provided considerable technical and business help for exporters, eg the IDEA project established trials to identify the most appropriate sweetheart rose varieties; it also financed the first chrysanthemum cuttings trials and developed the technology for producing export-quality peppers and chillies. The project also provided valuable market information and training for middle management, helped finance the building of a cold store at Entebbe Airport and provided staff to coordinate the logistics for export. Through this project, the growers received considerable assistance to improve their product quality and the implementation of certificates required by European buyers. The flower industry also receives donor support to fund an internationally recruited Chief Executive Officer (CEO) of the Uganda Flower Exporters Association (UFEA) as well as PSOM grants from the Dutch Government.
- **Cooperation amongst growers** – The growers have successfully formed UFEA. This has been vital to improve the freight situation – as in many countries, there is a very large step to move from exporting produce in passenger aircraft to chartering dedicated freight aircraft regularly. Most of the industry recognised that it needed to cooperate to achieve this and, through UFEA, and with help from the IDEA project, the industry now has regular freighter services landing at Entebbe. By cooperation and forming an active association, the industry has accessed funds to pay for its CEO, collectively lobbies Government for incentives, eg allowing exporting farms to be classified as Export Processing Zones, the quick repayment of VAT and the implementation of duty-free incentives on imported inputs. UFEA is currently trying to raise finance to establish a Research and Training Institute.
- **Freight** – There are a number of reasons why Uganda was able to establish good freight links with Europe. These included the cooperation by the exporters noted above and the significant fresh fish exports (26,000 tonnes in 2003[216]) that were exported from Entebbe to Europe, making it much more attractive for freight aircraft to land.
- **Government support** – The Ugandan Government has given some incentives to attract foreign investment into the floricultural industry, which have been successful in attracting investments by most of the major breeders of chrysanthemums. These have included tax holidays through the Uganda Investment Authority, and duty-free status on inputs.

In summary, Uganda has an attractive climate for a narrow range of floricultural and horticultural produce, which it eventually started to exploit successfully. The realisation of the most profitable crops to grow was a relatively slow and financially painful process for the private sector – but undoubtedly this has been speeded up by donor support.

ZIMBABWE

Zimbabwe's development of horticultural and floricultural exports to Europe started in the early 1980s. The key driver was that the tobacco industry was making exceptionally good profits but the growers were not allowed to access foreign exchange because the crop was sold in Zimbabwe for local currency. Some tobacco growers therefore started to grow summer flowers for the European market and then retain some of the revenues off-shore – when it was illegal to hold money off-shore. Fairly quickly a few farmers realised that export floriculture and then horticulture could be very profitable and they started to develop cut-roses and labour-intensive

[215] These USAID projects were the Export Promotion and Analysis Development Unit (EPADU) and the Investment in Developing Export Agriculture (IDEA).
[216] The fish are Nile Perch caught in Lake Victoria.

crops such as mangetout (snow peas) and runner beans. The recent political troubles have significantly reduced the level of exports to Europe. However, the key factors that contributed to Zimbabwe's initial success include:

- **Climate** – The climate in Zimbabwe is good for contra-season production of flowers and some vegetables for the European market. Its warm summer rains make it difficult for temperate vegetables that require cooler and dry conditions – but its dry winter is good for mangetout and runner bean production. The rose industry does not suffer from the rains as they are grown in plastic greenhouses.
- **Cheap labour** – Even though the timing of the Zimbabwean runner beans crop clashes with European production, the low labour costs give Zimbabwe a competitive edge. Similarly, the low labour cost gives it a distinct comparative advantage over the North African producers, such as Morocco, in the production of mangetout.
- **Good management** – Zimbabwe traditionally had a thriving and profitable agricultural industry based mainly on large commercial farms. These had the management and business skills to develop the export opportunities in horticulture and floriculture.
- **Externalising money** – A key driver was the desire for farmers to retain foreign exchange outside of the country, which was against the country's foreign exchange regulations at the time.
- **Utilise retained earnings** – Many of the farms established horticultural and floricultural exports using retained profits made from other crops and were therefore not constrained by significant debt repayments.
- **Freight** – As with other countries, freight was a very important issue. However, the growers recognised that if the industry was going to expand and have access to sufficient freight, then they had to cooperate to charter freighters – often making use of backloads from South Africa. This cooperation happened because once the exporters were sufficiently aware of its importance they established regular weekly meetings specifically to review and develop the industry's freight strategy.
- **Market linkages** – A number of Dutch companies recognised the potential for Zimbabwean flower exports and established offices in Harare to provide both technical and marketing support for the farmers in the late 1980s and early 1990s.
- **Government support** – The Government provided some support, eg Affreightair, the Government-controlled freight company, gave priority to ensuring that there was sufficient capacity available for Zimbabwean perishable exports, and facilities at Harare airport were built to facilitate perishable exports.

In summary, Zimbabwe has an attractive climate for producing off-season products for the European market, and it had a very good base of commercial agriculture to provide management and services needed to diversify into higher-value exports. The commercial agricultural base also generated the money to allow investment in floriculture and horticulture without incurring significant debt. When some Dutch companies recognised that it was a profitable place for floriculture, they offered marketing and technical support. The issue of freight was resolved through cooperation amongst the industry.

ZAMBIA

Zambia's exports of horticulture started in the early 1980s, encouraged by an incentive of being allowed to retain 50% of the foreign exchange earnings to buy inputs for other farming activities.

Exports were initially helped by very cheap, subsidised air freight, as low as USD 0.07/kg[217], at a time when commercial companies were charging about USD 1.30 to 1.50/kg. This low freight rate encouraged the growing of low-value vegetables. As soon as the freight rates were raised to commercial levels, the low-value vegetable exports became non-viable. During the mid-1980s when air freight rates were low, the Zambia Export Growers Association Ltd (ZEGA Ltd) borrowed money from the European Investment Bank (EIB) to build a cold store at Lusaka airport. When the levels of vegetable exports declined, the repayment of the EIB debt became impossible, so further EIB loans were organised for establishing cut-rose production units whose output would then use the airport cold store. These rose farms became the basis of the high-value export industry. A number of factors have contributed to the success of Zambia's horticultural and floricultural industry, including:

- **Climate** – a good climate for contra-season production of some flowers and vegetables for the European market.
- **Cheap labour** – when mangetout was introduced in Zambia, its cheap labour gave it a significant edge over Moroccan production and prevented any serious competition developing in Southern Europe.
- **Donor support** – EIB loans to farmers helped establish the cut-rose industry and the EU-funded Export Development Project (EDP) gave considerable technical and financial support to the whole industry in the 1990s. The EDP support included a revolving fund that could be used to pre-finance inputs[218] and the project provided technical support to improve product quality.
- **Cooperation amongst exporters** – the formation of ZEGA by the exporters was important in establishing regular freight services. Initially ZEGA was established by a small group of farmers who were exporting or who wanted to enter the export market and who also recognised that they needed critical mass to purchase inputs from South Africa and negotiate duty-free incentives with Government. It was established without any donor support but as it evolved, it became an important vehicle to access donor support.
- **Freight** - Perhaps the main benefit of the cooperation amongst the growers was to secure air freight. The tonnage of Zambia's air freight exports was always less than Kenya and Zimbabwe, so achieving critical mass to secure competitive rates and capacity was difficult. However, through ZEGA, the exporters cooperated, sometimes putting the long-term future of the industry ahead of the short-term benefits of the members. For example, when the industry reached the stage of needing regular freight aircraft, the exporters agreed to fill the freighters before any cargo went on the passenger airlines, despite rates on the passenger airlines being cheaper[219]. This ensured that freighters continued to land regularly at Lusaka, allowing the industry to take a major step forward.

[217] This cheap freight rate was provided by Zambia Airways, the national airline that became insolvent and was closed in the late 1980s.

[218] The pre-financing of inputs meant that the goods (including freight, packaging, plants, agrochemicals) were paid for before they were used, which guaranteed that the goods were available – the farmers paid the revolving fund the monies when they utilised the inputs. In other words, it significantly helped the exporters' cash-flow.

[219] Airline companies have much more latitude in their pricing policies than dedicated freight companies. This is because revenue from cargo is a "by-product" of the passenger service; most of the costs of the aircraft are covered by the passenger load and the revenue from any freight carried is a bonus. However, with dedicated freight aircraft all the costs have to be covered by freight. In reality, the freight rates charged by passenger airlines are similar to those charged by dedicated freight companies. In the case of Zambia, the passenger companies were trying to undercut the freighters to get business.

- **Good management** – Zambia did not have such a large commercial farmer base as Zimbabwe, but it did have sufficient commercial farmers to provide adequate management and business skills needed to establish a new and innovative industry.
- **Research and training** - The Zambian industry realised that despite having a core of good managers, there was a shortage of competent middle management and supervisors. In addition, it also recognised that some central research could benefit the whole industry. Therefore, when the EDP finished, the revolving fund, along with other donor and industry finance, was used to establish a Research and Training Farm on one of the Agricultural Colleges outside Lusaka. This Research and Training Farm was established by the industry and was managed by the industry for the benefit of the industry.

In summary, Zambia has a reasonable climate for producing off-season products for the European market. However, much of its success can be put down to the cooperation in the industry (with the formation of ZEGA) and by the support given through the EU-funded project and through the EIB. The cooperation within ZEGA for ensuring a regular freight service was clearly vital and the establishment of the Research and Training Farm was particularly innovative.

GHANA

Ghana has a different climate to the above countries – it is considerably warmer and produces and exports sub-tropical crops, such as pineapples, papaya and is also a significant exporter of Asian vegetables (see Table 3.3 at the end of this Appendix). In the 1980s and 1990s, making use of cheap air freight (using "backloads" on aircraft that delivered freight into Nigeria), it became the main supplier of air freighted pineapples to Europe. The European pineapple market was dominated by sea freighted fruit from the Ivory Coast and Costa Rica, but there was a much smaller market for high quality air freighted fruit, in which Ghana became the dominant supplier. However, by about 1993 it had saturated this air freight pineapple market and it had to move into the sea freighted pineapple market. Therefore, the growers had to change from competing against each other to cooperating on the key issue of freight[220]. The factors for the success of the Ghanaian perishable export industry included:

- **Freight** – Ghanaian exporters were, and indeed still are, able to get very cheap freight to Europe making use of backloads from Nigeria (rates have been about USD 0.70 to 0.80/kg for many years).
- **Climate** – Ghana has an excellent climate for all-year-round production of some fruits and Asian vegetables.
- **Cooperation** – Sea freight pineapple exports would not have taken off without the cooperation of the farmers, first to gain competitive freight rates for exporting in refrigerated containers and then to hire space on boats that were also exporting bananas from Cameroon. The initial realisation of the need for cooperation originated during a consultancy assignment when the growers were invited to a meeting to discuss the future of their industry.
- **Donor support** – USAID had a project specifically supporting non-traditional agricultural exports. This project established and helped fund an organisation called Sea freight Pineapple Exporters of Ghana (SPEG), which became the vehicle for organising sea freight space, negotiating rates and then assisting with loading the boats. The USAID

[220] Because when supplying the air freight pineapple market, Ghana accounted for about 75% of the supply, therefore the main competition for a Ghanaian exporter was another Ghanaian farmer. Then when they started exporting by sea, they were a minor player and could not afford to continue competing with each other.

project also helped with the establishment of dedicated pineapple handling and storage facilities at Tema port.

In summary, Ghana's success can be put down to initially having cheap air freight and then utilising donor support to accelerate the development into sea freight and create cooperation amongst the exporters.

ETHIOPIA

Ethiopia has long been recognised as having an excellent climate for producing export quality floricultural and horticultural products. Despite the climate advantages, by 2003 vegetable exports to the EU were only just under 3,000 tonnes (Table 2.2) and it was an even more insignificant exporter of cutflowers (Table 2.4). The Ethiopian Government has recently made considerable efforts to stimulate Foreign Direct Investment (FDI) in horticulture and floriculture. It is reported that there have been significant investments in roses and that over 70 ha of greenhouses have been built. In addition, there have also been investments in outdoor flowers and some Kenyan vegetable exporters are diversifying into Ethiopia. The consultant does not have first hand experience of Ethiopia, but a number of investors were interviewed. They gave their reasons for investing in Ethiopia as follows:

- **Climate** – The climate in Ethiopia is regarded as being as good as Kenya for many products – and better for others. In particular, it has constant temperatures throughout the year and it has a very distinct and short rainy season that coincides with the low prices in Europe – but the dry season coincides with the high prices[221]. It has wide variations in diurnal temperatures that are very important for some crops.
- **Incentives that are implemented very quickly** – The private sector gets good incentives for investing in horticulture and floriculture[222] and these incentives are easy to obtain – and if there is a problem, then it is quickly solved. In other words there is a very distinct culture amongst the senior civil servants to support FDI.
- **Diversification of political risk** – One of the main reasons given by the Kenyan export companies for investing in Ethiopia is that it is important to "diversify political risk" – and the reasons they chose Ethiopia over other East African countries are that the climate is better for horticultural and floricultural production and, importantly, the Government makes considerable efforts to ensure that the incentives are implemented quickly and efficiently. In contrast, in other countries such as Tanzania it can take much longer to sort out problems associated with incentives.
- **Cheap freight** – Currently, an important incentive for exporters is cheap freight (reportedly USD 1.09/kg compared with USD 1.75 to 1.95/kg from East African countries[223]). This cheap freight is on Government-owned Ethiopian Airlines who have invested in new freight aircraft and are reportedly flying to Europe at a loss; therefore effectively the Government is subsidising the cost of air freight. If the export targets

[221] All horticultural and floricultural production that is air freighted exports to EU is grown under irrigation. Unlike roses, which are grown under plastic greenhouses, summer flowers are generally grown outdoors, and are therefore more vulnerable to any rainfall. As rain tends to damage flowers and reduce quality, it is best when the rains coincide with the less attractive market and then production is timed for the higher priced markets in the dry season when quality and yields are best.

[222] Most of these incentives are very similar to those being offered for investors in Tanzania. The only difference reported was that it is reportedly easier to get work permits in Ethiopia.

[223] The difference between freight rates out of Ethiopia and Kenya as of October 2005 was considerably smaller. In fact, most observers believe that within two years air freight rates out of Ethiopia and Kenya will be virtually identical.

Ethiopia has set for the industry are reached, it will have to start using commercial freight companies and the cost will rise to Kenyan and Tanzanian rates. But the cheap freight is certainly an attractive incentive during the development phase of the industry. The transport situation has also been encouraged by the building of a good airport with modern perishable cargo handling facilities.

- **Other input costs** – Investors claim that the Ethiopian Government is making stringent efforts to reduce taxes on services and is trying to keep other input costs as low as possible. One Kenyan-based investor in Ethiopia notes that electricity and fuel are cheaper in Kenya, whilst other imported inputs are similarly priced.
- **Good security** – Some investors regard the security situation as being much safer than in, say, Kenya – both in terms of personal security and petty theft from farms.