

The Nigerian Cassava Industry

Statistical handbook

2005



IITA
Research for Northern Africa

**The Nigerian Cassava
Industry
Statistical Handbook**

©International Institute of Tropical Agriculture (IITA), 2005
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Within Nigeria:
PMB 5320, Oyo Road
Ibadan, Oyo State

ISBN 978 131 268 8

Printed in Nigeria by IITA

Correct citation. Philip T., D. Taylor, L. Sanni, R. Okechukwu, C. Ezedinma,
M. Akoroda, J. Lemchi, P. Ilona, F. Ogbe, E. Okoro, and A.G.O. Dixon.
The Nigerian cassava industry: Statistical handbook. IITA Ibadan.

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Preface

This handbook is intended to provide the Nigerian cassava industry and those interested in learning about the industry with a basic understanding of its scope, organization, and magnitude. The data provides a baseline for monitoring changes in the industry and a guide for investments and research. Although some sections are incomplete, the sections and table headings are provided as a guide for future industrial data needs.

This handbook is to be updated on an annual basis and widely distributed in number. Hard copies are available for all levels of government, institutions, industries, associations and interested individuals. Soft copies are available on request.

It is hoped that this handbook will contribute to the progress and success of the Nigerian cassava industry for years to come. Comments about this handbook or additional suggested data should be sent to the Cassava Handbook Committee.

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Historical events relevant to the industry.

Year	Event
1940	Gold Coast hybrid 7 introduced in Nigeria to combat African Cassava Mosaic Virus
1955	Varieties 60506, 60447 and 60444 developed
1960	Nigerian independence
1967–70	Nigerian Civil War
1968	Federal Institute for Industrial Research. Cassava plant launched in Lagos
1971	IITA begins root and tuber improvement program in Ibadan
1972	National Accelerated Food Program launched Cassava bacterial blight emerges
1973	Crude oil exports become the main source of foreign exchange
1976–79	Operation Feed the Nation
1979–83	Green Revolution Program
1979	Mealybug and cassava green mite emerge in Nigeria
1981	Mealybug parasitoid released
1982	Special Government Program on Maize and Cassava Production launched Import restrictions reintroduced
1983–86	IITA varieties TMS 4(2)1425, 30001, 30572, 50395 made nationally available
1984	
1985	Multi-State Agricultural Development Programmes (ADP) program began
1986	Structural Adjustment Programs
1987–96	IFAD Cassava Multiplication Project
1988	
1989	Effective biological control of mealybug
1995	National Accelerated Industrial Crops Production Programme
1996	Three-year phase out of import prohibition list
1997	Nigeria Roots Crops Marketing Board starts and ends in single year
2000	Import duties lowered on many raw material and capital goods in textiles and paper industries. Longstanding ban on maize lifted but effective duty is over 80%. Import duty on wheat doubled to 15%. Duties on other agricultural commodities (frozen chicken, turkey, eggs), as high as 75%
2001	IFAD supports Root & Tuber Crop Expansion
2002	President's Initiative on Cassava: establishes National Committees on Cassava Production, Processing and Packaging and Market Development and Export
2003	National Strategic Food Reserve formulated to include gari
2004	The First Annual Nigerian Cassava Handbook is published

Organizations relevant to the Nigerian cassava industry

Acronym	Organization
	Universities of Agriculture and Universities of Nigeria
ADPs	Agricultural Development Projects
AIDU	Industrial Development Unit, Abuja
COSCA	Collaborative Study on Cassava in Africa
CAPAN	Cassava Processors Association of Nigeria
CEFAN	Cassava Equipment Fabrication Association of Nigeria
FGN	Federal Government of Nigeria
FIIRO	Federal Institute of Industrial Research, Oshodi, Lagos
IITA	International Institute for Tropical Agriculture
NCAM	National Centre for Agricultural Mechanization, Ilorin
NRCRI	National Root Crop Research Institute, Umudike
NSPRI	National Stored Products Research Institute, Ilorin
PCU	Projects Coordinating Unit, Abuja
PRODA	Product Development Agency, Enugu
RMRDC	Raw Material Research and Development Council, Abuja

Programs relevant to the Nigerian cassava industry

Acronyms	Cassava Project	Donor
CEDP	Cassava Enterprise Development Project	SPDC, USAID, IITA
CMD	Multi Donor Preemptive Management Cassava Mosaic Disease Project	USAID, FGN, SG, NDDC, NNPC
RTEP	Root and Tuber Expansion Program	FGN, IFAD

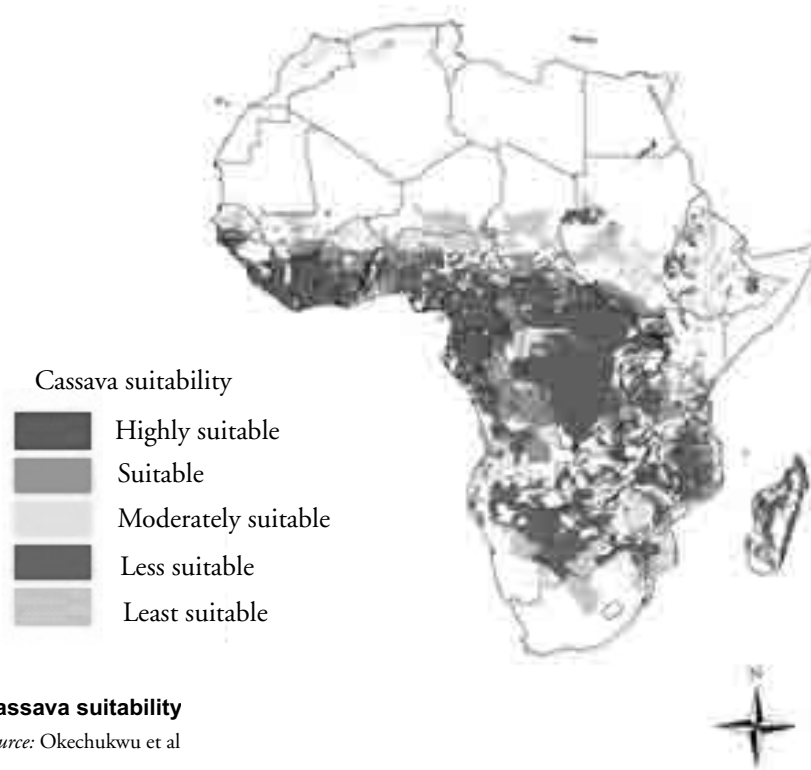
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Production

Cassava production 1980–2002 (1000 mt).

Year	FAO	National
1980	11 500	
1981	11 000	
1982	11 700	
1983	9 950	
1984	11 800	
1985	12 090	
1986	12 388	
1987	13 876	
1988	15 439	
1989	17 404	
1990	19 043	
1991	26 004	
1992	29 184	
1993	30 128	
1994	31 005	
1995	31 404	
1996	31 418	
1997	32 050	
1998	32 695	
1999	32 697	28 686
2000	32 697	26 363
2001	33 854	27 521
2002	34 376	27 938

Sources: FAO 2004 and PCU 2003.



Cassava and other food staples production 1980–2002 (1000 mt).

Year	Cassava	Maize	Sorghum	Millet	Yams
1980	11 500	612	3 690	2 354	5 248
1981	11 000	720	3 364	2 682	5 212
1982	11 700	766	3 740	2 666	5 385
1983	9 950	1 027	3 694	2 783	4 998
1984	11 800	1 196	4 608	3 349	4 600
1985	12 090	1 826	4 911	3 584	4 738
1986	12 388	3 550	5 425	4 111	5 209
1987	13 876	4 612	5 455	3 905	4 886
1988	15 439	5 268	5 182	3 949	9 132
1989	17 404	5 008	4 831	4 770	9 609
1990	19 043	5 768	4 185	5 136	13 624
1991	26 004	5 810	5 367	4 109	16 956
1992	29 184	5 840	5 909	4 501	19 781
1993	30 128	6 290	6 051	4 602	21 632
1994	31 005	6 902	6 197	4 757	23 153
1995	31 404	6 931	6 997	5 563	22 818
1996	31 418	5 667	7 084	5 681	23 201
1997	32 050	5 254	7 297	5 902	23 972
1998	32 695	5 127	7 516	5 956	24 768
1999	32 697	5 476	7 520	5 960	25 873
2000	32 697	5 476	7 711	6 105	26 201
2001	33 854	5 598	7 081	5 530	26 374
2002	34 476	4 934	7 704	6 100	26 849

Sources: FAO 2004.

Cassava production (mt) by region 1999–2002.

Region	1999	2000	2001	2002
South West	5 846 320	4 993 380	5 663 614	5 883 805
South South	6 609 290	6 268 114	6 533 944	6 321 674
South East	5 852 190	5 384 130	5 542 412	5 846 310
North West	2 572 410	2 435 211	2 395 543	2 340 000
North Central	7 625 990	7 116 920	7 243 970	7 405 640
North East	1 79 900	1 65 344	1 41 533	1 40 620
Total	28 686 100	26 363 099	27 521 016	27 938 049

Source: PCU 2003.



Staple food production 2002.

Source: PCU 2003 and Geospatial laboratory.

Cassava production (mt) by state 1999–2002.

Code and states by region	1999	2000	2001	2002
100 South West				
101 Ekiti	793 070	716 230	584 710	584 710
102 Lagos	328 290	250 000	350 000	370 650
103 Ogun	1 254 590	1 027 810	1 328 074	1 524 600
104 Ondo	1 437 320	1 178 640	1 354 120	1 357 135
105 Osun	1 083 550	900 400	930 000	930 000
106 Oyo	949 500	920 300	1 116 710	1 116 710
200 South South				
201 Akwa Ibom	960 730	852 180	934 610	1 029 750
202 Bayelsa	461 510	448 430	470 000	470 000
203 Cross River	2 044 910	1 958 034	1 957 334	2 017 334
204 Delta	795 380	750 300	872 000	902 590
205 Edo	601 310	539 170	550 000	550 000
206 Rivers	1 745 450	1 720 000	1 750 000	1 352 000
300 South East				
301 Abia	346 790	250 000	280 000	280 000
302 Anambra	699 360	613 260	639 752 83	700 580
303 Ebonyi	462 440	420 000	450 000	450 000
304 Enugu	2 088 510	2 048 270	2 120 660	2 164 730
305 Imo	2 255 090	2 052 600	2 052 000	2 251 000
400 North West				
401 Kaduna	1,896,900	1 854 473	1 884 543	1 980 000
402 Kano	-	-	-	-
403 Katsina	-	988	1 000	-
404 Kebbi	-	-	-	-
405 Niger	666 280	569 750	500 000	350 000
406 Sokoto	9 230	10 000	10 000	10 000
407 Zamfara	-	-	-	-
500 North Central				
501 Abuja	7 010	6 370	8 190	10 205
502 Benue	3 531 670	3 516 150	3 585 220	3 578 090
503 Kogi	2 793 300	2 506 000	2 704 000	2 785 120
504 Kwara	455 760	438 400	411 000	500 000
505 Nassarawa	338 190	250 000	245 500	240 000
506 Plateau	500 060	400 000	290 060	292 225
600 North East				
601 Adamawa	12 670	12 670	13 000	13 000
602 Bauchi	18 690	17 990	17 000	16 100
603 Borno	-	6 494	4 120	4 120
604 Gombe	7 690	7 340	7 413.40	7 400
605 Jigawa	-	-	-	-
607 Taraba	140 850	120 850	100 000	100 000
608 Yobe	-	-	-	-

Source: PCU 2003.

Area

Cassava area (1000 ha) harvested 1980–2002.

Year	FAO	National
1980	1 200	
1981	1 200	
1982	1 250	
1983	1 100	
1984	1 259	
1985	1 075	
1986	1 095	
1987	1 288	
1988	1 347	
1989	1 640	
1990	1 634	
1991	2 551	
1992	2 755	
1993	2 844	
1994	2 927	
1995	2 940	
1996	2 946	
1997	2 697	
1998	3 042	
1999	3 072	2 416
2000	3 072	2 255
2001	3 135	2 307
2002	3 453	2 311

Sources: FAO 2004 and PCU 2003.

Cassava and other food staples area 1980–2002 (1000 mt).

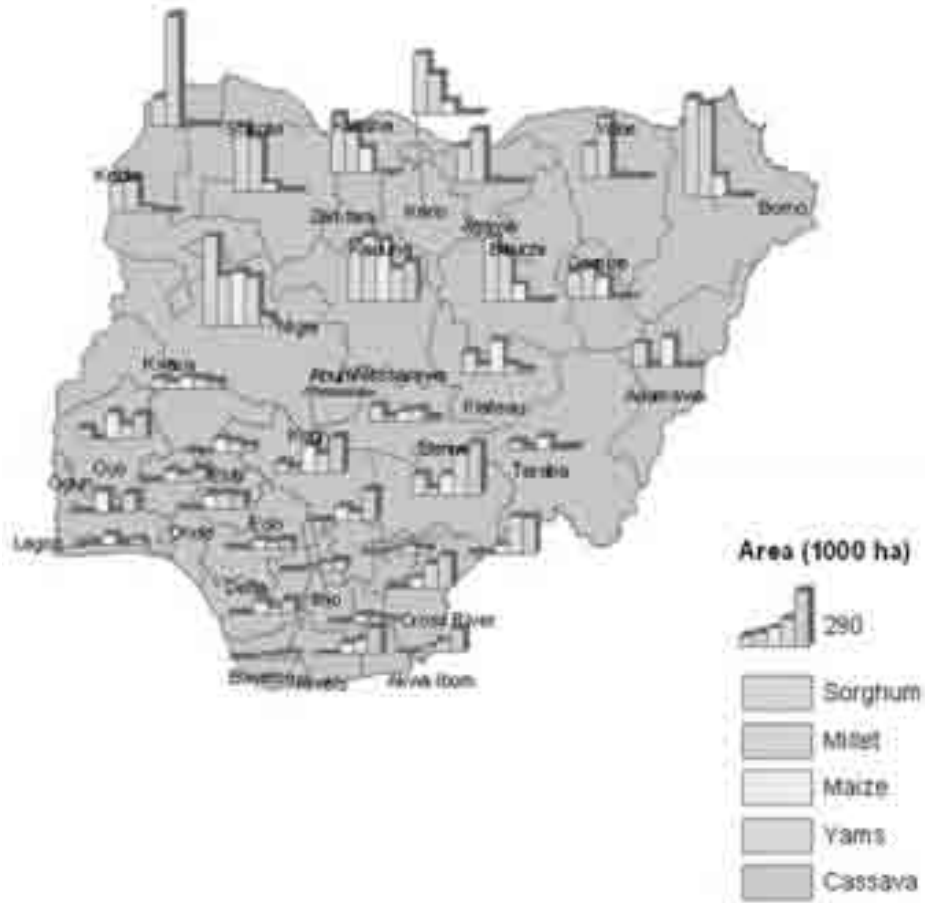
Year	Cassava	Maize	Sorghum	Millet	Yams
1980	1 200	465	3 286	2 824	498
1981	1 200	438	2 077	1 708	926
1982	1 250	556	2 290	1 698	956
1983	1 100	1 058	2 280	1 773	888
1984	1 259	1 050	4 410	2 133	816
1985	1 075	1 556	4 862	2 346	840
1986	1 095	2 800	5 147	3 917	924
1987	1 288	3 408	5 131	3 829	751
1988	1 347	3 212	4 776	3 563	935
1989	1 640	3 590	4 954	4 067	921
1990	1 634	5 104	4 185	4 778	1 276
1991	2 551	5 142	5 538	4 560	1 639
1992	2 755	5 223	5 474	4 367	1 743
1993	2 844	5 309	5 605	4 850	1 906
1994	2 927	5 426	5 738	5 007	2 031
1995	2 940	5 472	6 095	5 107	2 118
1996	2 946	4 273	6 191	5 356	2 172
1997	2 697	4 200	6 589	5 487	2 170
1998	3 042	3 884	6 635	5 596	2 625
1999	3 072	3 965	6 678	5 603	2 708
2000	3 072	3 965	6 885	5 814	2 742
2001	3 135	3 999	6 933	5 855	2 914
2002	3 453	4 490	7 068	6 162	3 017

Sources: FAO 2004.

Cassava area (ha) by region 1999–2002.

Region	1999	2000	2001	2002
South West	442 820	382 540	421 190	444 302
South South	601 980	605 804	609 754	600 227
South East	471 940	432 510	448 612	456 040
North West	298 070	289 734	278 614	260 800
North Central	579 500	524 066	529 765	530 975
North East	21 470	20 810	18 590	18 323
Total	2 415 780	2 255 464	2 306 525	2 310 667

Source: PCU 2003.



Staple food area 2002

Source: PCU 2003 and Geospatial laboratory.

Cassava area (mt) by state (ha) 1999–2002.

Code and states by region	1999	2000	2001	2002
100 South West				
101 Ekiti	52 230	46 400	36 000	36 000
102 Lagos	27 020	22 000	28 150	29 160
103 Ogun	90 980	69 390	82 000	103 792
104 Ondo	84 470	69 010	77 290	77 600
105 Osun	70 720	65 000	67 000	67 000
106 Oyo	117 400	110 740	130 750	130 750
200 South South				
201 Akwa Ibom	109 360	115 320	120 210	125 520
202 Bayelsa	33 370	30 240	29 500	29 500
203 Cross River	180 000	178 034	177 034	178 207
204 Delta	71 720	64 000	76 010	78 000
205 Edo	50 400	45 360	45 000	45 000
206 Rivers	157 130	172 850	162 000	144 000
300 South East				
301 Abia	19 760	14 290	17 000	17 000
302 Anambra	54 050	52 000	54 102	55 620
303 Ebonyi	29 370	28 830	29 000	29 000
304 Enugu	202 660	182 390	190 510	192 420
305 Imo	166 100	155 000	158 000	162 000
400 North West				
401 Kaduna	207 990	205 514	207 114	212 000
402 Kano	-	-	-	-
403 Katsina	-	690	700	-
404 Kebbi	-	-	-	-
405 Niger	86 530	80 000	67 000	45 000
406 Sokoto	3 550	3 530	3 800	3 800
407 Zamfara	-	-	-	-
500 North Central				
501 Abuja	830	710	850	1 025
502 Benue	268 090	252 200	269 390	269 450
503 Kogi	200 000	186 000	182 000	177 900
504 Kwara	33 910	30 000	29 000	35 000
505 Nassarawa	36 920	25 000	25 000	23 000
506 Plateau	39 750	30 156	23 525	24 600
600 North East				
601 Adamawa	1 690	1 690	1 700	1 700
602 Bauchi	1 900	1 900	2 000	1 733
603 Borno	-	1 120	760	760
604 Gombe	3 500	3 100	3 130	3 130
605 Jigawa	-	-	-	-
607 Taraba	14 380	13 000	11 000	11 000
608 Yobe	-	-	-	-

Source: PCU 2003.

Area (ha) planted for multiplication by varieties.

	TMS 30372	TMS 4(2)1425	TMS 91934	TMS 30555	TMS 30001	Other	Total
1987	39.0	3.0	8.0	16.0	2.0	6.0	74.0
1988	62.0	6.0		24.0	7.0	2.0	101.0
1989	59.0	11.0		30.0	4.0	3.0	107.0
1990	82.0	18.0	2.0	18.0	3.0	1.0	124.0
1991	25.0	15.0	5.0	12.0	17.0	22.0	96.0
1992	65.8	18.4	5.0	1.0	11.0	0.5	101.7
1993	57.0	23.0	7.5		9.5	0.0	97.0
1994	31.3	37.3	7.0		8.0	7.4	91.0
1995	15.0	9.0	8.0		5.0	5.0	42.0
1996	13.8	2.7			5.0	4.5	26.0
1997							
1998							
1999							
2000							
2001							

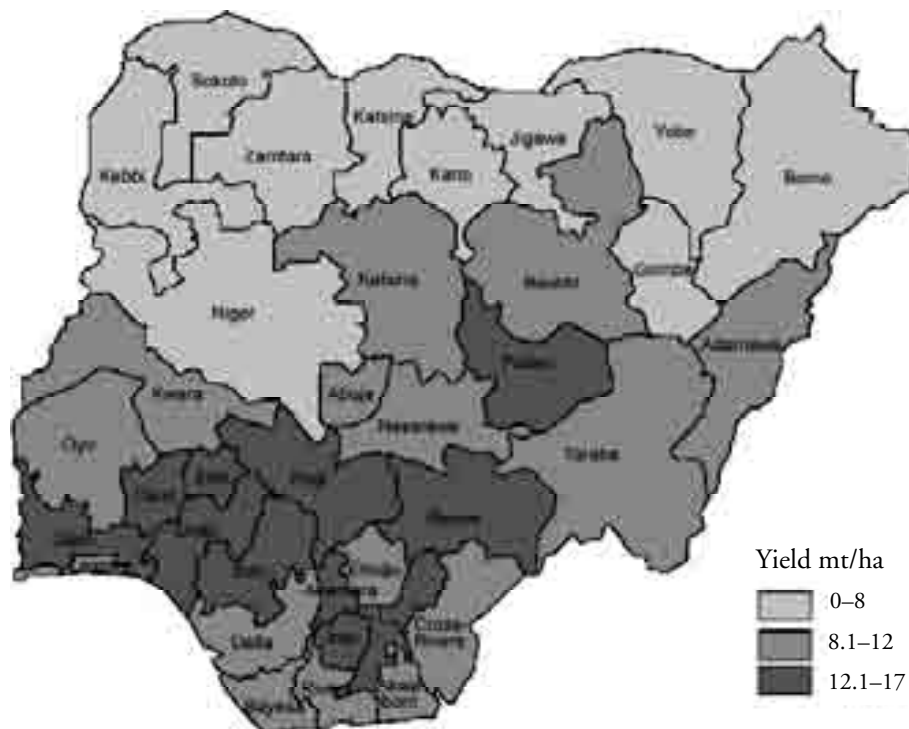
Source: RTEP 2002.

Note: In 1991 the 22 hectares attributed to 'other' include 12 ha of TMS U/41044 and 10 ha of TMS 50395.

Yield**Cassava yield (mt/ha) 1980–2002.**

Year	FAO	National
1980	9.58	
1981	9.17	
1982	9.36	
1983	9.05	
1984	9.37	
1985	11.25	
1986	11.31	
1987	10.77	
1988	11.46	
1989	10.61	
1990	11.65	
1991	10.19	
1992	10.59	
1993	10.59	
1994	10.59	
1995	10.68	
1996	10.66	
1997	11.88	
1998	10.75	
1999	10.64	9.17
2000	10.64	9.33
2001	10.80	9.45
2002	9.98	9.46

Sources: FAO 2004 and PCU 2003.



Cassava yield (mt/ha) 2002.

Source: PCU 2003 and Geospatial laboratory.

Average cassava yield (mt/ha) by region and year.

Region	1999	2000	2001	2002
South west	13.59	13.48	14.14	13.93
South south	11.35	11.13	11.54	11.44
South east	14.03	13.66	13.59	13.95
North west	2.77	2.91	2.95	2.82
North central	11.80	12.38	12.36	12.58
North east	4.19	4.92	4.72	4.83
Average	9.17	9.33	9.45	9.49

Source: PCU 2003.

Cassava yield (mt/ha) by state and year.

Code and states by region	1999	2000	2001	2002
100 South West				
101 Ekiti	15.18	15.44	16.24	16.24
102 Lagos	12.15	11.36	12.43	12.71
103 Ogun	13.79	14.81	16.20	14.69
104 Ondo	17.02	17.08	17.52	17.49
105 Osun	15.32	13.85	13.88	13.88
106 Oyo	8.09	8.31	8.54	8.54
200 South South				
201 Akwa Ibom	8.79	7.39	7.77	8.20
202 Bayelsa	13.83	14.83	15.93	15.93
203 Cross River	11.36	11.00	11.06	11.32
204 Delta	11.09	11.72	11.47	11.57
205 Edo	11.93	11.89	12.22	12.22
206 Rivers	11.11	9.95	10.80	9.39
300 South East				
301 Abia	17.55	17.49	16.47	16.47
302 Anambra	12.94	11.79	11.82	12.60
303 Ebonyi	15.75	14.57	15.52	15.52
304 Enugu	10.31	11.23	11.13	11.25
305 Imo	13.58	13.24	12.99	13.90
400 North West				
401 Kaduna	9.12	9.02	9.10	9.34
402 Kano	0.00	0.00	0.00	0.00
403 Katsina	0.00	1.43	1.43	0.00
404 Kebbi	0.00	0.00	0.00	0.00
405 Niger	7.70	7.12	7.46	7.78
406 Sokoto	2.60	2.83	2.63	2.63
407 Zamfara	0.00	0.00	0.00	0.00
500 North Central				
501 Abuja	8.45	8.97	9.64	9.96
502 Benue	13.17	13.94	13.31	13.28
503 Kogi	13.97	13.47	14.86	15.66
504 Kwara	13.44	14.61	14.17	14.29
505 Nassarawa	9.16	10.00	9.82	10.43
506 Plateau	12.58	13.26	12.33	11.88
600 North East				
601 Adamawa	7.50	7.50	7.65	7.65
602 Bauchi	9.84	9.47	8.50	9.29
603 Borno	0.00	5.80	5.42	5.42
604 Gombe	2.20	2.37	2.37	2.36
605 Jigawa	-	-	-	-
607 Taraba	9.79	9.30	9.09	9.09
608 Yobe	0.00	0.00	0.00	0.00

Source: PCU 2003.

Other

Measurements for multiplication and production.

Description	Value	Unit
A planting stick measures	1	meter
A planting bundle includes	50	sticks
Bundles required to plant one ha	60	bundles
Plant population per ha	10 000	plants
Seed multiplication rate	8	
Bundles obtainable from 1 ha	400	
One tractor cultivates	500	ha

Good farming practices

Land	Clear trees with little shifting of the soil. Dig out roots of large trees. Use tractor drawn chain and tree pushers to fell trees. No scraping of top soil. Divide and mark land into plots of uniform levels.
Soil	Loosen soil by hoeing, ploughing, heaping, ridging as is suitable for the site.
Stem	Obtain stems for planting from 7–9 months old plants cut to 25–30 cm lengths from the middle parts of the standing mother stem. Avoid top green soft part and hard woody part at the base. Dip stems in a solution of fungicide and insecticide mix. Allow stems to air dry before planting. Stems must be planted within two days of being cut into planted cut units. Each cutting must have 5–8 nodes and must not be from diseased mother plant and show no sign of pest or disease attack.
Planting	Insert cuttings (1–1) in any orientation to have good contact with soil depending on soil type, once rains become steady.
Weeding	Control weeds before canopy of cassava stems cover the ground either by appropriate herbicide or well-timed hoe weeding (2–3 times).
Fertilize	In Nigeria, 85% of the soils have medium to low fertility. The use of soil amendments is essential to obtaining yields of above 18 tons per hectare. In general 6–12 bags of 50 kg each of appropriate combination of fertilizer will be required to support very high root yields. Use of manure and organic materials will reduce fertilizer quantity to be applied. Soil must be tested before the levels to be applied can be determined optimally.
Harvesting	Harvest at 10–12 months depending on the variety planted. Avoid breakage of roots to keep down spoilage.
Field inspection	Every fortnight, check the farm for events that affect the plants or the soil. Take appropriate remedial action after heavy wind, lodged plants, eroded soil, exposed roots, gully paths and rodent damage, etc.

Data to be supplied

Cassava yields and attributes by variety (mt/ha).

Code and states by region	Variety A	Variety B	Variety C	Variety D
100 South West				
101 Ekiti				
102 Lagos				
103 Ogun				
104 Ondo				
105 Osun				
106 Oyo				
200 South South				
201 Akwa Ibom				
202 Bayelsa				
203 Cross River				
204 Delta				
205 Edo				
206 Rivers				
300 South East				
301 Abia				
302 Anambra				
303 Ebonyi				
304 Enugu				
305 Imo				
400 North West				
401 Kaduna				
402 Kano				
403 Katsina				
404 Kebbi				
405 Niger				
406 Sokoto				
407 Zamfara				
500 North Central				
501 Abuja				
502 Benue				
503 Kogi				
504 Kwara				
505 Nassarawa				
506 Plateau				
600 North East				
601 Adamawa				
602 Bauchi				
603 Borno				
604 Gombe				
605 Jigawa				
607 Taraba				
608 Yobe				

Processing and equipment

Cassava processing

Cassava products and uses

Leaf

Consumer	Process	Use
Human	Raw	as a vegetable
		fortified food supplement
	Cooked	soup ingredient
Livestock	Cooked	as a vegetable
	Meal	feed concentrates
	Dried	animal feed fortication
		ensilage
		livestock feed

Stem

Consumer	Process	Use
Livestock	Dried	used in animal feed concentrate
	Mixed	with leaves as ruminant feed
Lumber		particle board
Production	Cuttings	for plant propagation
	Grafting	for increased yields

Root

Consumer	Process	Use
Human	Cooked	boiled or baked for table use
		Juice
	Residue	fibre or bagasse from starch extractive
	Fried	slices and fried as French Fries
	Grated	and fermented for palm oil, fried as gari
		Dried
		Abacha
	Fermented	fufu mixed with meat, oil, vegetables, spices and water
		added animal feeds
		gari
Nsisa		
		tapioca

Root contd.

Consumer	Process	Use
	Peeled	young root or aipim
	Shredded	and mixed with coconut oil, peanuts, greens, spices
	Root peel	livestock feed broken roots pellets

Chips

Consumer	Process	Use
Livestock	Chip, sliced Pellet	for livestock (dairy and beef cattle, goats, pigs, chickens)
	Ground	into meal or flour
Industrial	Extracted	for starch

Meal and flour

Consumer	Process	Use
Adhesives	Raw	glues & adhesives
Human	Raw	bread extender
	Boiled	in soups, sauces, gravies, etc,
		protein enriched flour (fish protein concentrate, soybean isolate, casein, etc.)
	Raw	selected amino acid enriched flour (lysine, tryptophane, methionine, etc)
	Raw	fortified flour (with wheats, Oyo, peanut, vitamins, etc)
Human	Raw	bakeries, pastries, alimentary pastas (macaroni)
	Raw	porridge (gruel)
	Raw	improved bread flour (with added calcium stearyl lactate as a conditioner)
	Fermented	Eba

Starch

Consumer	Process	Use
Adhesives	Native	glues and pastes
Human	Native	baked goods
	Native	desserts -puddings, pie filling (sago)
	Native	infant foods
	Native	confections (moulding of cast sweets)
	Native	blended with peanut flour, nonfat milk solids, vitamins
	Modified	improved starches (ex. Added glyceryl monostearate as a binding agent)
	Native	thickening agents (synthetic jellies)
	Native	glucose
	Native	bodying agents (carmels)
	Native	fermented beverages (beer)
	Native	enriched with LPC, soy, corn, rice (pasta)
	Modified	oxidised starches
	Native	dusting agents (chewing gum)
	Native	gums (envelopes, postage stamps, gummed tapes)
	Modified	pre-cooked soluble starches, instant puddings
	Modified	thin—boiling starches (confectionary manufacture)
Lumber	Native	dextrins (bonding pigment to paper; preventing glass checking)
	Native	laundry starch
	Native	alcohol
Lumber	Native	adhesives (cardboard, plywood, and veneer)
Oil	Native	oil well drilling
Paper	Native	Paper sizing and bonding
Textile	Native	textile sizing and strengthening

Source: Raw Materials Research and Development Council 1990.

Common Nigerian cassava products

Abacha

Abacha is a product commonly produced in parts of south-eastern Nigeria but it is rare elsewhere. The production involves boiling roots that are cut into small flat pieces. The sliced pieces are soaked overnight to make wet *abacha*, or sun-dried for the dried form.

Chips

Chips are dried small regular shaped cassava product.

Flour

There are many processes for producing cassava flour. They may involve all or some of the following unit operations—peeling of the roots (day of harvesting), washing, slicing or grating, pressing (immediately), granulation, drying (sun or mechanical), milling, sieving, and storage. The flours produced have different properties and are used for various purposes.

Fufu

Fufu is a fermented wet-paste from cassava and it is ranked next to *gari* as an indigenous food of most Nigerians in the south. The fermented cassava paste remained a common source of producing the cooked form of *fufu* until lately when the idea of dried *fufu* flour came into being. Apart from ease of preparation into the consumable form, dried *fufu* has the added advantages of a longer shelf life, convenience of storage and less weight. When cooked, *fufu* is a creamy-white smooth textured product. It is eaten as a main meal with soup or stew. When properly stored it has a shelf life of six months or more.

Gari

Gari is a creamy-white, granular flour with a slightly fermented flavor and slightly sour taste. It is produced from cassava roots and eaten as a main meal with soup or stew. It is consumed as a drink with sugar and milk. When properly stored it has a shelf life of six months or more.

Pellets

Production of pellets involves pressing chips in an extruder through a large die. The heat and moisture in chips helps in the formulation of a pellet shaped product.

Starch

Cassava starch is produced by peeling and washing of cassava roots, grating to obtain fine pulp, which is slurried in excess water. The slurry is sieved to remove the fibrous materials. The liquid starch milk is allowed to sediment. Recovered starch is washed three times, sedimented, recovered, dried and dry milled to produce cassava powder, which has both household and industrial uses. In cooking it is used as a thickener, filler, binder, and stabilizer. Its many uses include substitution for potato and cornstarch. It is an important

raw material in manufacturing sago pearl, monosodium glutamate, fructose, glucose, and dextrose. It is used in pharmaceuticals to make capsules and tablets. It is used in the textile industry for yarn sizing and in the paper industry for paper pressing, flattening, and polishing. It is also a raw material for glue manufacture.

Tapioca

Tapioca meal is a partly gelatinized, dried cassava starch, which appears as flakes or irregularly shaped granules. It is usually soaked or cooked in water and sugar and or milk are added.

Processing stages by cassava product.

		Fufu		South South Fufu		West		Ethanol	
		South East		South		Gari		Ethanol	
<i>Abacha</i>	Chips	Roots	Roots	Roots	Roots	Roots	Roots	Pellets	Roots
Peel	Peel	Peel	Peel	Peel	Peel	Peel	Peel	Chip	Wash
Wash	Wash	Wash	Wash	Wash	Wash	Wash	Wash	Dry	Peel
Slice	Chip	Soak/ Ferment	Soak/ Ferment	Grate	Grate	Shred	Grate	Mill	Wash
Cook	Dry	Grate/Cake Breaking	Pulp	Ferment	Press	Immerstion	Sieve	Pellet	Grate
Soak	Pack	Dewater/ Press	Sieve	Dewater/ Press	Cake Breaking	Wash	Extract	Dry	Cook
Wash	Final product	Cook	Extract	Cake Breaking	Dry	Dry	Sedimentation	Grade	Ferment
Soak	Cool	Cool	Dewater/ Press	Sieve	Mill	Pack	Dewater	Pack	Ferment
Pack	Pack	Pack	Cake Breaking	Fry	Pack	Final product	Cake Breaking	Final product	Bottle
Final Product	Final product	Final product	Dry	Cool	Final Product	Pack	Dry	Sieve	Pasteurize
									Cool
									Final product
									Distil
									Bottle
									Final
									Product

Source: Authors 2003.

Processing yields.

Product	Location	Conversion from	Conversion to	Yield (%)
Chips	Laboratory	Root	Chips (peeled)	25
Chips	Laboratory	Root	Chips (unpeeled)	40–45
Ethanol	Industrial	Root	Ethanol	18
Ethanol	Industrial	Crude alcohol	Ethanol	90
Flour	Laboratory	Root	Flour	25
<i>Fufu</i>	Industrial	Root	Flour	15–17
<i>Fufu</i>	Industrial	Wet	Flour	53
<i>Fufu</i>	Laboratory	Root	Flour	14–15
<i>Fufu</i>	Laboratory	Root	Wet	40
<i>Gari</i>	Industrial	Root	<i>Gari</i>	25
<i>Gari</i>	Laboratory	Root	<i>Gari</i>	10–15
<i>Lafun</i>	Laboratory	Root	<i>Lafun</i>	23–28
Pellets	Industrial	chips	Pellet	90
Starch	Industrial large scale	Root	Flour	18
Starch	Industrial small scale	Root	Flour	10–11
Starch	Laboratory	Dry chips	Starch	30
Starch	Laboratory	Root	Starch	17–25
Tapioca	Laboratory	Root	Tapioca	8–10

Source: Authors 2003.

Equipment

Cassava products and required processing equipment.

Equipment	<i>Abacha</i>	Chips	<i>Fufu</i>	<i>Gari</i>	HQCF	<i>Lafun</i>	<i>Nsisa</i>	Starch	Tapioca	Pellets	Ethanol
Chipper		Chips								Pellets	
Cleaner								Starch	Tapioca		
Cooker	<i>Abacha</i>		<i>Fufu</i>								
Cooler			<i>Fufu</i>	<i>Gari</i>							Ethanol
Crusher						<i>Lafun</i>					
Dewater/Press			<i>Fufu</i>	<i>Gari</i>	HQCF	<i>Lafun</i>		Starch	Tapioca		
Dryer		Chips	<i>Fufu</i>		HQCF	<i>Lafun</i>	<i>Nsisa</i>	Starch	Tapioca	Pellets	Ethanol
Extractor								Starch	Tapioca		Ethanol
Frier				<i>Gari</i>					Tapioca		
Grader				<i>Gari</i>					Tapioca		
Grater/Cake breaker			<i>Fufu</i>	<i>Gari</i>	HQCF			Starch	Tapioca		Ethanol
Immersor							<i>Nsisa</i>				
Mill					HQCF	<i>Lafun</i>		Starch		Pellets	
Packaging	<i>Abacha</i>	Chips	<i>Fufu</i>	<i>Gari</i>	HQCF	<i>Lafun</i>	<i>Nsisa</i>	Starch	Tapioca		
Peeler	<i>Abacha</i>	Chips	<i>Fufu</i>	<i>Gari</i>	HQCF	<i>Lafun</i>	<i>Nsisa</i>	Starch	Tapioca		Ethanol
Pelletizer										Pellets	
Pulper			<i>Fufu</i>								
Sedimentor								Starch	Tapioca		
Shredder							<i>Nsisa</i>				
Sieve			<i>Fufu</i>	<i>Gari</i>		<i>Lafun</i>		Starch	Tapioca		Ethanol
Slicer	<i>Abacha</i>										
Soaker	<i>Abacha</i>										Ethanol
Soaker/Fermenter			<i>Fufu</i>	<i>Gari</i>		<i>Lafun</i>					
Washer	<i>Abacha</i>	Chips	<i>Fufu</i>	<i>Gari</i>	HQCF	<i>Lafun</i>	<i>Nsisa</i>				Ethanol

Source: Authors 2003.

Availability/use of processing equipment by state.

State	Prime mover	Presser	Grater	Fryer
101 Ekiti	57	65	25	75
102 Lagos	15	47	35	42
103 Ogun	36	87	88	80
104 Ondo	1	8	9	7
105 Osun				
106 Oyo	52	56	65	63
201 Akwa Ibom	50	65	56	16
202 Bayelsa	100	100	100	100
203 Cross River	39	80	73	79
204 Delta	70	67	90	20
205 Edo				
206 Rivers	68	72	76	69
302 Anambra	25	45	58	62
303 Ebonyi	70	22	21	22
304 Enugu	36	38	68	55
305 Imo	18	11	10	13
401 Kaduna	59	55	20	26
405 Niger	8	44	41	55
501 Abuja	20	16	32	21
502 Benue	21	25	37	31
503 Kogi	34	32	34	32
504 Kwara	33	7	10	3
505 Nassarawa	12	28	17	11
506 Plateau	39	38	35	44
607 Taraba	91	91	91	91

Source: Root and Tuber Expansion Program 2001.

Expected processing capacity by scale of operation and product.

Product	Cottage to small scale	Small to medium scale	Medium to large scale
Chip processing	1 ton/day		
Ethanol plant	50 litres/day	1000 litres/day	2 000 liters/day
Malt drink		100 litres/day	500 liters/day
Feed mill	1 ton/day	2 ton/day	
Flour processing	1 ton/day		
Gari processing	1 ton/day		
Hard pellet plant			120 ton/day
Starch processing	1 ton/day		

Source: Sub—Committee 2002.

Expected processing rates by scale of operation and task.

Process	Cottage to small scale	Small to medium scale	Medium to large scale
Bottling		100 bottles/hr Bottling and Corking equipment	
Centrifuge		500 l/hr centrifuge	
Chipping	30 kg/hr mechanical chipping machine	300 kg/hr mechanical Chipping machine	1 ton/hour mechanical chipping machine
Cooling	Manual hand fan	100 bottles (malt) water spring equipment 200 l/hr (ethanol and malt) Aluminium cooker fuel, gas or electric	Mechanical electric fan blower
Cooking Dewatering/ Pressing	350 kg/hr hydraulic jack	350 kg/hr screw press	
Drying	Kg/hr manual sun drying	500 kg/hr manual or mechanical platform or rotary	Mechanical flash
Fermentation	50 l/hr (malt) Racks	100 l/hr (malt) Aluminium containers	500 l/hr (ethanol) Aluminium containers
Fryer	2x4ft tray fryer circular		Gari frying machine
Harvesting	200 plants/man-hour Manual cassava lifter		1 ha/hr mechanical tractor drawn tuber harvester
Grating	30 kg mash/hr manual pedal operated grater		350 kg/hr mechanical grating machine
Milling		100 kg/hr mechanical hammer or Burr mill	400 kg/hr mechanical hammer mill
Packaging & sealing		120 bags/hr Plastic bag or Polythene bag	
Pasteurization		30 No. 33 cl bottles	
Peeling	35 kg/hr manual peeling tool		500 kg/hr mechanical peeling machine
Pelleting		100 kg/hr mechanical pelleting machine	
Sifting	50 kg/hr manual sifter	500 l/hr (ethanol) rotary screener	100 kg/hr mechanical Sifter
Sieving Pulverizing	150 kg/hr manual framed sieve of plastic mesh		400 kg/hr mechanical grating and hammer mill
Soaking		200 litre sedimentation tanks	
Saccharification		200 l/hr (malt) mixer	500 l/hr (ethanol) mixer
Washing	250 kg/hr washing equipment		
Wet screening			Rotary screen

Source: Sub-committee 2002.

Approximate purchase and operating costs of equipment 2002 in Naira.

Equipment	Small		Medium scale		Large scale	
	Purchase	Operating	Purchase	Operating	Purchase	Operating
Cake breaker						
Chipper	3 hp	55 000				
Cleaner						
Cooker						
Cooler						
Crusher						
Dewaterer						
Rotary dyer	350 kg/hr					
Extractor	500,000					
Fermenter						
Frier						
Grader						
Granulator						
Grater	1 t/hr	55 000	2 t/hr	75 000		
Grater/Chipper	5 hp	85 000	10 hp	125 000		
Immensor						
Hammer Mill	5 ton/hr					
Packaging	150 000					
Peeler						
Pelletizer			10 hp	185 000		
Press (Hydraulic)			40 t	130 000		
Pulper						
Sedimentor						
Shredder						
Sieve						
Slicer						
Soaker						
Washer						

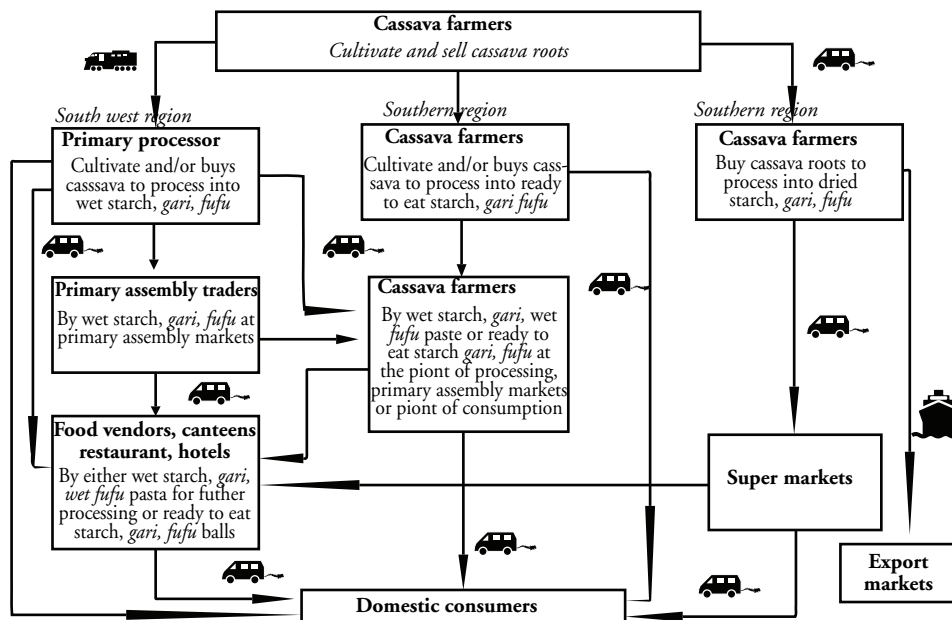
Data to be supplied

Production, trade, and utilization by state by processed product (mt)
Gari, chips, flour, starch, pellets etc.

States	Production	Imports	Exports	Storage	Loss	Utilization
	(A)	(B)	(C)	(D)	(E)	(F=A+B-C-D-E)

Cassava utilization

Human consumption



Supply chain schematic for food use.

Source: Authors 2003.

**Per capita consumption of cassava
(gm/person/day).**

	Gm person per day
National	226.93
Dry savana1	131.16
Moist savanna	192.37
Humid forest zone	284.42
Rural	239.74
Medium	220.53
Urban	213.76
Nassarawa	136.13
Taraba	168.59
Borno	56.47
Kaduna	123.16
Kebbi	148.16
Kano	162.06
Osun	136.43
Edo	166.91
Kwara	324.17
Imo	345.50
Bayelsa	356.13
Akwa-Ibom	409.15

Source: Ministry of Health.

Frequency of cassava consumption (per person/per week).

State	Representative population	Surveyed population	Percentage of sampled population by the frequency of stated cassava consumption per week			
			0 times	1–2 times	3–4 times	over 4 times
Osun	3966	537	2.23	28.86	35.75	33.15
Akwa Ibom	4936	1085	2.67	28.29	36.22	32.81
Bayelsa	1970	426	11.74	21.36	15.49	51.41
Edo	3591	563	1.95	20.60	24.87	52.58
Imo	3792	744	12.23	23.66	20.83	43.28
Kaduna	3629	504	0.99	76.98	17.66	4.37
Kano	5176	609	1.97	57.14	37.11	3.78
Kebbi	2353	432	0.23	84.49	15.05	0.23
Kwara	2731	485	0.41	26.80	37.73	35.05
Nassarawa	2150	347	1.73	57.35	28.24	12.68
Borno	3353	511	2.74	65.17	28.38	3.72
Taraba	2933	465	4.95	36.77	25.16	33.12

Source: Ministry of health.

Estimated production and utilization of cassava products (%) by state.

State	Boiled roots	Roasted roots/ tapioca	<i>Gari</i>	Starch	<i>Fufu</i> Akpu	Abacha	kpo <i>gari</i>	Fried mash*	<i>Lafun</i>	Chips	Pupuru
South West											
Ogun			55	2	13				30		
Ondo			65	5	10				10	1	10
Osun			65		15				20		
Oyo		1	65	2	15				20	1	
North Central											
Akwa Ibom			90		8	2					
Cross River			73		25	1				1	
Delta			70	15	10		5				
Edo			74	3	20				3		
Rivers			85	3	10						2
North East											
Abia			60		20	9					1
Enugu		3	47	8	42	15		5			
Imo			30		60	10					
South South											
Kaduna	2		53	2				1	41	1	
South East											
Benue	10		25	1	23				40		
Kogi	1		22	1	10	1			40	15	

Source: Authors 2003. Fried mash*

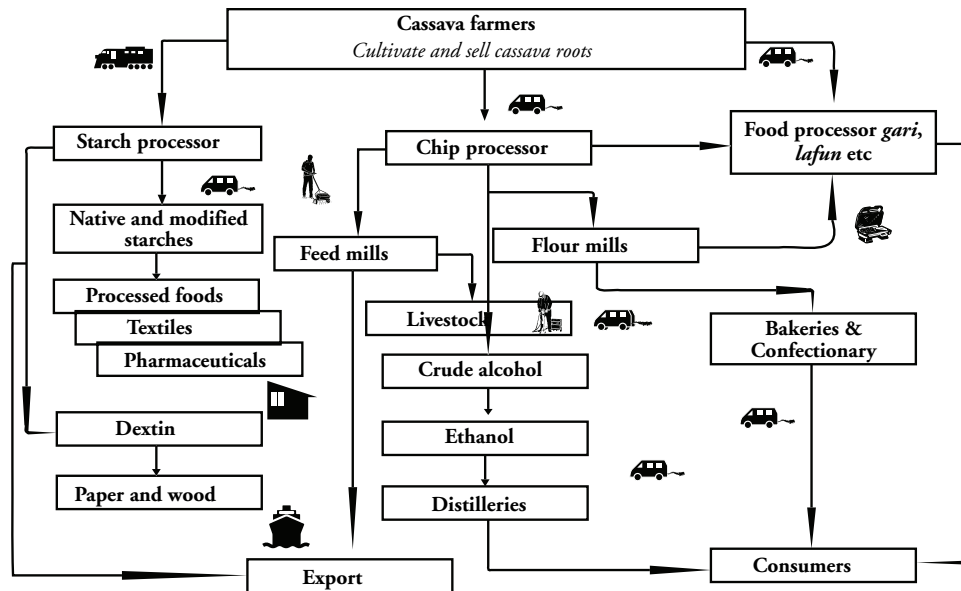
Awareness of alternative uses of cassava (% of surveyed respondents).

State	Boiling for consumption	Confectionary	Flour, dough grits	Porridge	Substitute for wheat flour
101 Ekiti	15		65	10	
102 Lagos	33	36	69	9	11
103 Ogun	68	23	72		45
104 Ondo	9	3	10	7	3
105 Osun					
106 Oyo	64	20	80	2	40
201 Akwa Ibom	100		100	10	
202 Bayelsa	76	100	45	67	93
203 Cross River	91	13	43	59	38
204 Delta	37	20	27	7	23
205 Edo					
206 Rivers	78	7	16	58	10
302 Anambra	87	31	53	64	31
303 Ebonyi					
304 Enugu	87		82	11	10
305 Imo	10	6	14	8	4
401 Kaduna		28		79	
405 Niger	73	10	57	29	48
501 Abuja	65	23	70	45	16
502 Benue	88	7	87	4	27
503 Kogi	46	4	100	11	21
504 Kwara		100			
505 Nassarawa	86	8	85	11	13
506 Plateau	54	12	44	41	10
607 Taraba	76	7	72	40	20

Source: Root and Tuber Expansion Program 2001.

Note: Ekiti, Osun, Edo, Ebonyi States undertook the survey but unfortunately the data needed to complete this table was not readily available from their submitted reports to RTEP. In future, the raw data in electronic form should be made available for inclusion in the Cassava Handbook.

Industrial use



Supply chain schematic for industrial use.

Source: Authors 2003.

Industrial users of cassava

Potential cassava industrial users in the national telephone yellow pages (number).

Categories	Number of listings
Adhesive products manufacturers	
Aerated water manufacturers (soft drinks)	5
Agricultural equip and machinery	24
Agriculture	32
Associations	15
Baby food and products manufacturers	
Bakers and confectioners	80
Battery manufacturers	
Biscuit manufacturers	18
Brewers raw material manufacturers	
Canned food manufacturers	2
Confectionery raw material suppliers	
Department stores	438
Drug and pharmaceutical products manufacturers	26
Explosives	4
Fabricator	
Farmers	45
Fertilizers and animal feeds manufacturers	2
Fish farmers	78
Flour mills	26
Food contractors and foodstuffs suppliers	6
Food processing companies	54
Foods and beverage producers	66
Garri processing industries	
Grinding mills	
Hotels, restaurants	903
Livestock feed manufacturers	16
Malt manufacturers	
Mud products	
Newspaper manufacturers	2
Packaging Industries	33
Paper bags manufacturers	1
Paper mills, converters and dist	47
Poultry farms	70
Poultry feeds (feed mills)	4
Shipping companies and Agents	48
Snack stores and suppliers	5
Starch malt (cassava starch)	
Starch mills	
Textile manufacturers	122
Timber Industries	
Trade organizations	10
Trade promotion	7
Transporters	167

Number of potential cassava industrial users in telephone yellow pages by state.

State code	State name	Number of firms listed
100	South West	
101	Ekiti	11
102	Lagos	684
103	Ogun	49
104	Ondo	33
105	Osun	18
106	Oyo	195
200	South South	
201	Akwa Ibom	8
202	Bayelsa	
203	Cross River	54
204	Delta	100
205	Edo	113
206	Rivers	112
300	South East	
301	Abia	91
302	Anambra	82
303	Ebonyi	14
304	Enugu	112
305	Imo	42
400	North West	
401	Kaduna	87
402	Kano	116
403	Katsina	4
404	Kebbi	
405	Niger	27
406	Sokoto	
407	Zamfara	6
500	North Central	
501	Abuja	
502	Benue	47
503	Kogi	1
504	Kwara	39
505	Nassarawa	2
506	Plateau	49
600	North East	
601	Adamawa	3
602	Bauchi	19
603	Borno	36
604	Gombe	6
605	Jigawa	2
607	Taraba	
608	Yobe	

Fresh root equivalent used by various domestic industries in 2001.

		Fresh root equivalent	Quantity of root equivalent as % of root production
Animal Feed	Chips	3 167	10.00
Flour, biscuits, confectionery	HQCF	96.2	0.31
Adhesives	Dextrin pregelled starch	87	0.28
Pharmaceutical	Starch and hydrolysates	15.2	0.50
Soft drinks	Syrup concentrate	1 566	5.00
Seasonings		39	0.13
		4 970.4	16.22

Source: Kormawa and Akoroda 2003.

Awareness of industrial uses of cassava (% of surveyed respondents).

State	Industrial	Livestock feeding	Pellets	Pellets & chips
101 Ekiti				
102 Lagos	10	49	31	38
103 Ogun	23	68	30	30
104 Ondo	2	8	3	3
105 Osun				
106 Oyo	40	94	49	58
201 Akwa Ibom	40			
202 Bayelsa	61	17	31	67
203 Cross River	28	73	36	43
204 Delta	10	57		
205 Edo				
206 Rivers	6	93	31	54
302 Anambra	22	65	32	59
303 Ebonyi				
304 Enugu		68	29	34
305 Imo	5	18	13	20
401 Kaduna	47	37		42
405 Niger	9	68	37	45
501 Abuja		83	53	49
502 Benue		82	44	66
503 Kogi	6	35	42	71
504 Kwara		100		100
505 Nassarawa	8		33	47
506 Plateau	8	53	29	43
607 Taraba	13	59	52	51

Source: Root and Tuber Expansion Program 2001.

Note: Ekiti, Osun, Edo, Ebonyi states undertook the survey but unfortunately the data needed to complete this table was not readily available from their submitted reports to RTEP.

Nigerian trade

Nigerian exports of cassava.

Mt

Year	Cassava flour	Cassava equivalent	Glucose and dextrose
1996	7	35	0
1997	7	35	0
1998	7	35	0
1999	7	35	0
2000	0	0	60
2001	0	0	0
2002	2 300	11 500	0

Source: FAO 2004.

Year	Cassava flour	Cassava equivalent	Glucose and dextrose
1996	7	7	0
1997	7	7	0
1998	7	7	0
1999	7	7	0
2000	0	0	16
2001	0	0	0
2002	200	200	0

Source: FAO 2004.

Cassava substitutable Nigerian imports.

Mt

Year	Cassava tapioca	Cassava flour	Cassava root equivalent	Glucose and dextrose	Maize	Wheat and wheat flour equivalent
1996	320	5	1 625			908 612
1997	320	5	1 625		4 100	1 177 894
1998	320	5	1 625			1 533 101
1999	320	5	1 625			1 583 032
2000				16 503		2 222 489
2001				9 700	180	2 196 312
2002				14 711	48 441	2 400 277

Source: FAO 2004.

'000\$

Year	Cassava tapioca	Cassava flour	Cassava root equivalent	Glucose and dextrose	Maize	Wheat and wheat flour equivalent
1996	86	2	88			153 916
1997	86	2	88		730	193 916
1998	86	2	88			246 616
1999	86	2	88			255 416
2000				5 939		252 675
2001				2 800	60	286 100
2002				4 342	5 385	352 260

Source: FAO 2004.

Please note that this is not a complete nor exhaustive list of import substitution possibilities.

Examples of industrial product standards.

Quality criterion	Africa	Colombia	Europe	Nigeria	Thailand
Chips					
Aflatoxins		Negative			
Ash content		3% max		1.8–3.0%	
Clostridium		100 max			
Coliforms		10x1000 max			
Crude cellulose				2.1–5%	
Crude fibre		4% max		2.5	5% max
Cyanohydric acid		100 ppm			100 ppm
Escherichia coli		Negative			
Fungi		10x1000 max			
Mesophiles		10x10 max			
Moisture content		12% max		10–14%	16% max
Packaging				Paper Bag	
Salmonella		Negative			
Sand					4% max
Sealing				Hot seal/sew	
Starch content		65% min		12% min	65% min
Flour					
Aerobic bacterial mesophiles (cfu)		2x10 cfu			
Aflatoxins		0			
Ash content	3%	2%			
Coliforms		1x10 cfu			
Crude cellulose		5%		5%	
Crude fibre	2%	2.5%		2%	
Escherichia coli		0 per gram			
Fungus and yeast count		1x1000			
HCN				50 mg/kg	
Moisture content	13%	12%		12%	
Packaging				Jute-Impregnated	
Salmonella		0 per gram			
Sand	10%	3%		3% max	
Sealing				Hot Seal/Sew	
Starch content		62% min		62% min	
Total HCN		50 mg/kg			
Gari					
Moisture content				8–10%	
Packaging				Paper Bag	
PH				4.5–6.5	
Sealing				Hot seal/sew	
Sealing				Hot seal	

Examples of industrial product standards contd.

Quality criterion	Africa	Colombia	Europe	Nigeria	Thailand
Pellets					
Crude fiber			5% max		
Flour			8% max		
			m-m mest		
Foreign matter			none		
Hardness			12 kg/foot ²		
			min		
Moisture content			14% max		
Sand			3% max		
Starch content			65% min		
Pellets for animal feed					
Ash content			1.8–3.9%		
Crude fibre			2.1–5.0%		
Moisture content			10–14%		
Packaging			Paper bag		
Sealing			Hot seal/sew		
Starch content			70–82%		
Starch for food					
Acid factor			1.75–2.5		
Ash content			.3%		
Moisture content			11–14%		
PH			5.0–6.5		
Pulp			.5cc/50g		
Speck content			5 max		
Starch content			85% min		
Viscosity			350–450		
Starch for paper					
Ash content			.2%		
Moisture content			12%		
PH			6.5–7.0		
Pulp			.25cc/50g		
Speck content			15 max		
Starch content			82% min		
Viscosity			300–900 BU		

Source: CIAT 2004 and Sub—committee 2002.

Data to be supplied

Aggregate size of industrial users of cassava (% of GDP)

Data to be supplied

Imported raw material used by cassava industries

Data to be supplied

Rate of growth of potential industrial users of cassava

Prices

National prices 1993–2003

Average cassava root, gari, maize, millet, yam prices 1993–2003 (n/mt).

Year	Cassava	Gari	Maize	Millet	Sorghum	Yams
1993	2718.95	10996.46	6081.07	5735.81	5520.95	8180.41
1994	4624.14	10181.25	6737.40	5858.88	5653.45	12575.52
1995	7160.77	15518.22	13663.42		11923.89	19878.44
1996	10572.07	25561.33	19003.95	15667.64	15775.12	25515.36
1998	11786.73	24434.14	24615.99	27646.10	24430.27	29922.46
2000	12249.44	22485.87	23209.23	25104.51	19706.96	36048.33
2001	16674.20	59675.46	35732.37			48168.65
2002	26826.62	62888.90	35868.39			76434.52
2003	11576.94	42190.38	38607.50			45385.83

Rural cassava root, gari, maize, millet, yams urban prices 1993–2003 (n/mt).

Year	Cassava	Gari	Maize	Millet	Sorghum	Yams
1993	2594.09	10898.56	5860.30	5482.31	5620.77	7945.41
1994	4353.14	9831.67	6683.71	6049.34	5691.94	12248.80
1995	6837.86	15259.70	13306.85		11853.97	20118.97
1996	11710.44	23841.67	17857.87	15791.40	15920.60	23395.05
1998	11379.27	24141.25	23982.87	23716.95	24131.33	28311.45
2000	16112.11	23551.23	20084.45	17551.17	13387.47	40099.91
2001	17573.96	58044.35	33967.62			49166.23
2002	26362.17	59790.97	32778.09			67873.10
2003	6756.11	40784.62	37982.50			24913.33

Urban cassava root, gari, maize, millet, yams rural prices 1993–2003 (n/mt).

Year	Cassava	Gari	Maize	Millet	Sorghum	Yams
1993	2 872.59	10 776.36	6 180.71	5 930.63	5 510.26	8 898.60
1994	4 861.67	10 230.13	6 904.59	6 046.12	6 035.01	13 438.32
1995	7 122.91	15 780.82	13 987.08		12 370.23	19 292.76
1996	11 769.51	24 690.85	18 179.96	140 479.29	16 096.78	24 684.30
1998	12 459.46	24 694.92	25 433.03	25 629.85	25 330.24	31 386.33
2000	17 123.45	24 030.09	29 921.77	17 861.15	12 938.08	43 728.26
2001	19 756.81	60 806.22	35 844.22			50 899.23
2002	24 759.57	63 616.96	35 736.17			70 465.35
2003	16 397.78	43 895.83	39 232.50			45 690.00

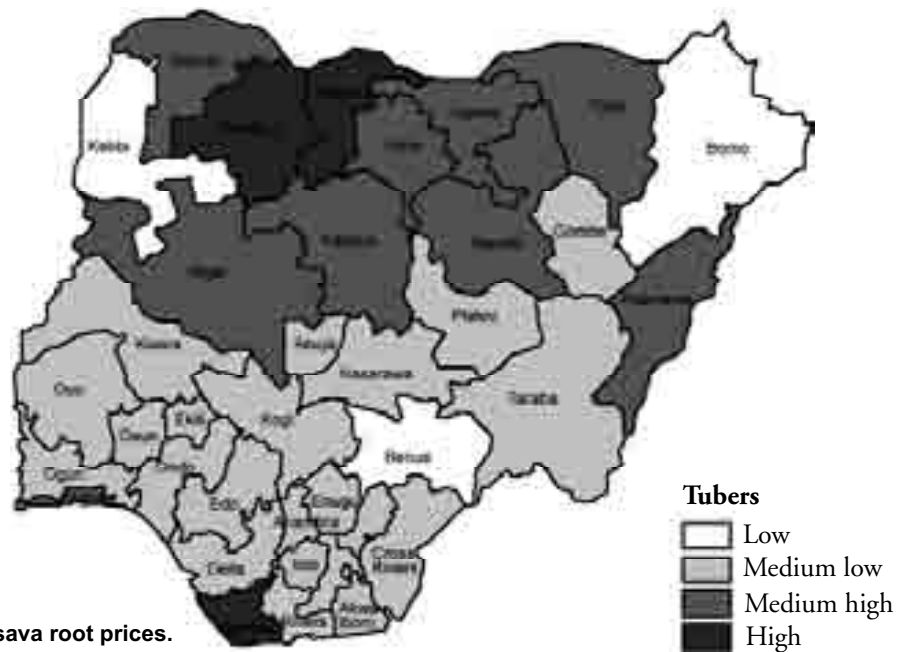
Source: PCU 2003.

Note: Prices were assembled and calculated from Monthly PCU price data collected from ADP offices. Some state data were missing for 2001, 2002, and 2003.

Selected cassava product and maize prices (n/mt).

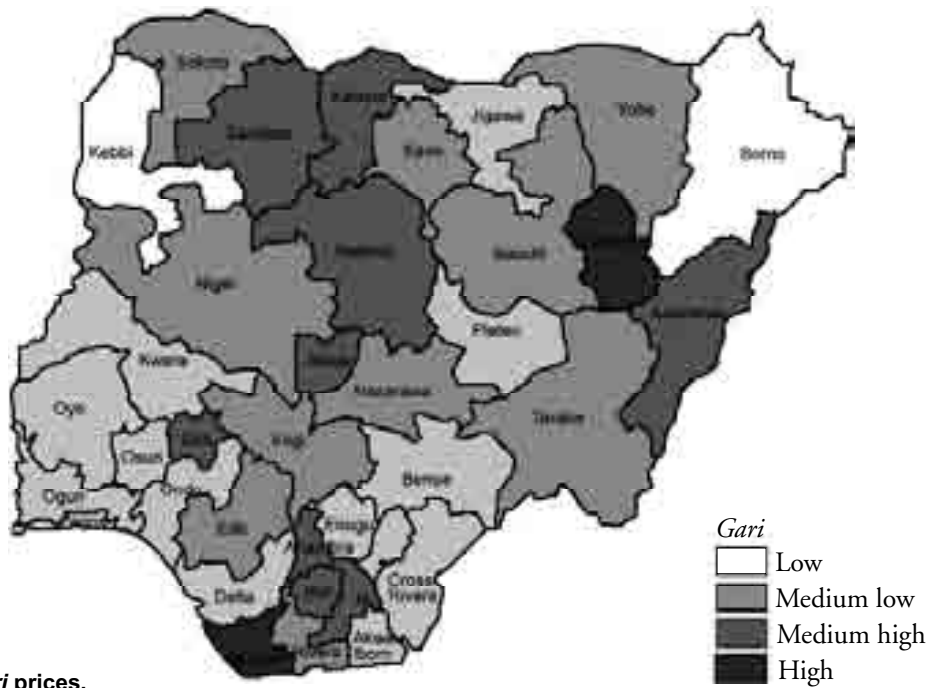
Year	Gari white	Cassava chips	Cassava flour	Cassava <i>fufu</i>	Cassava tapioca	Cassava Starch	Maize white	Maize yellow
Average								
2001		16 181.59	26 403.42				37 532.08	36 363.61
2002	56 937.71	54 275.00	42 993.62				35 190.65	34 652.61
2003		98 008.33	39 954.17	61 666.67	79 308.33	80 083.33		
Rural								
2001		18 660.00	23 037.95				30 044.17	28 300.83
2002	57 263.33	51 010.00	38 223.91				30 335.00	29 135.00
2003		98 600.00	39 640.83	62 500.00	80 000.00	82 500.00		
Urban								
2001		14 551.36	23 330.93				30 688.33	28 949.17
2002	56 612.08	56 890.00	41 790.85				31 754.17	32 115.00
2003		97 416.67	40 267.50	61 666.67	78 616.67	78 500.00		

Source: PCU 2003.



Cassava root prices.

Source: PCU 2003 and Geospatial laboratory. Non shaded areas are states with missing data.



Gari prices.

Source: PCU 2003 and Geospatial laboratory. Non shaded areas are states with missing data.

Regional average prices 1993–2003

Cassava price (n/mt) by regions.

Region	1993	1994	1995	1996	1998	2000	2001	2002	2003
SW	2 517.39	2 631.70	1 976.09	4 763.39	4 159.14	6 407.11			
SS	2 335.62	2 987.19	3 787.72	3 428.75	8 096.00	16 706.72	33 770.83		
SE	3 046.94	3 754.17	5 129.38	6 332.04	9 400.17	5 929.90	15 936.04	23 057.08	
NW	3 973.33	7 546.92	8 991.97	16 440.51	19 293.26	16 578.05	17 216.77	41 267.35	
NC	3 523.33	3 688.00	4 654.55	11 656.55	9 131.55	4 504.33	6 525.00	11 581.25	9 914.17
NE	4 936.67	7 549.98	13 151.05	14 794.38	16 493.81	17 627.10	7 636.67	22 268.75	

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Gari price (n/mt) by regions.

Region	1993	1994	1995	1996	1998	2000	2001	2002	2003
SW	8 924.44	7 916.94	10 557.56	26 689.47	20 028.29	17 410.70			
SS	12 245.36	9 859.73	12 243.25	24 932.50	22 116.05	28 470.29	59 163.33		
SE	12 870.71	10 669.17	16 486.35	25 959.39	30 102.50	20 132.29	73 362.40	69 609.06	
NW	11 601.08	10 711.88	18 688.79	25 229.51	27 344.50	20 016.00	55 381.21	61 887.89	
NC	9 848.06	8 927.27	12 626.17	22 519.37	22 281.54	15 231.41	56 249.94	41 123.79	42 524.40
NE	10 721.78	13 444.00	20 745.44	28 030.93	28 806.40	29 751.38	33 465.83	59 999.58	

Maize price (n/mt) by region.

Region	1993	1994	1995	1996	1998	2000	2001	2002	2003
SW	6 394.86	7 724.22	13 558.87	20 655.68	27 349.48	23 092.51			
SS	10 849.25	12 165.21	24 207.63	32 474.38	36 473.71	34 824.31	44 061.67		
SE	9 432.75	9 982.35	15 021.46	22 608.82	36 212.17	28 520.81	41 898.61	34 833.13	
NW	4 383.72	4 650.69	10 708.66	16 833.13	19 985.58	15 672.22	29 515.17	35 107.40	
NC	5 620.97	5 413.27	11 701.33	16 835.74	22 103.18	16 381.03	38 051.04	40 837.50	38 607.50
NE	4 594.12	5 575.36	11 965.51	17 234.30	22 538.23	20 281.70	29 606.81	34 304.24	

Yam price (n/mt) by regions.

Region	1993	1994	1995	1996	1998	2000	2001	2002	2003
SW	7 555.27	10 931.87	18 624.96	25 818.72	25 702.10	22 466.40			
SS	8 122.07	13 013.85	18 781.30	33 750.63	29 733.62	41 341.59	56 448.33		
SE	9 607.14	10 555.48	16 486.88	23 482.36	33 666.00	32 503.96	54 141.25	66 012.50	
NW	8 415.00	13 083.65	35 023.94	27 563.68	37 139.43	37 246.42	45 294.34	97 343.92	
NC	5 801.38	8 077.61	12 009.79	23 292.69	22 900.14	24 651.88	38 500.21	24 356.25	45 385.83
NE	11 216.43	27 197.00	22 965.34	33 689.38	38 707.56	58 794.24	50 308.75	101 460.51	

Sorghum price (n/mt) by region.

Region	1993	1994	1995	1996	1998	2000	2001	2002	2003
SW	6 783.22	7 342.67		16 335.33	27 575.05	25 333.70			
NW	4 592.29	4 390.46	10 612.62	15 469.47	23 464.80	17 520.28			
NC	6 238.70	5 561.04	14 617.25	16 502.96	23 151.69	14 968.61			
NE	4 469.58	5 319.61	10 541.80	14 792.73	23 529.54	21 005.24			

State average prices

Cassava root prices (n/mt) by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
101 Ekiti					4100	3000			
102 Lagos				7 263		24888			
103 Ogun	2 291	2 350	935	2 842	5 987	3 252			
104 Ondo			1 809	3 646	3 255	1 773			
105 Osun	3 236	2 649	2 804	4 667	4 076	3 340			
106 Oyo	2 025	2 896	2 356	5 399	3 378	2 190			
200 South South									
201 Akwa Ibom	1 484	1 524	2 194	2 610	5 890	16 963			
202 Bayelsa						45 117			
203 Cross River	2 085	3 521	4 297	4 248	8 705	10 933			
204 Delta	2 990	2 784	3 575		3 795	3 982			
205 Edo	2 272		2 978		6 950				
206 Rivers	2 847	4 119	5 895		15 140	6 538	33 771		
300 South East									
301 Abia		3 378	3 318	2 937	7 100		9 102		
302 Anambra	3 608	7 542	11 158	12 464	21 768	7 232		17 761	
303 Ebonyi					7 085	3 564			
304 Enugu	1 560	1 292	1 977	3 853	4 628	6 133			
305 Imo	3 972	2 805	4 065	6 075	6 420	6 790	22 770	28 353	
400 North West									
401 Kaduna	4 900	9 181		24 246	7 470	11 513	17 423	45 296	
402 Kano		6 316	8 925	14 482	16 225	15,741	17 010		
403 Katsina					25 465				
405 Niger	3 047	3 978	8 636	12 500	17 636	15 892		37 238	
406 Sokoto		10 712	9 415	14 534	17 029	21 050			
407 Zamfara					31 935	18 694			
500 North Central									
501 Abuja					12 980				4 926
503 Kogi					8 455	1 132	6 525	11 581	14 902
504 Kwara				12 926	5 836				
505 Nassarawa				13 000	7 572	7 877			
506 Plateau	3 523	3 688	4 655	9 044	10 814				
600 North East									
601 Adamawa	4 090	6 916	11 153	14 865	14 965	15 681		22 269	
602 Bauchi		5 272	18 213	13 416	14 068	21 490			
604 Gombe					15 747		7 637		
605 Jigawa			10 375	15 963	18 842	17 490			
607 Taraba	5 783	7 189	10 312	10 151	13 703	16 262			
608 Yobe		10 823	15 702	19 578	21 638	17 212			

Source: PCU 2003.

Gari prices (n/mt) by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
101 Ekiti					33750	21041			
102 Lagos	7863	11743	14661	21770	23195	19405			
103 Ogun	9208	7368	9531	19138	15893	19097			
104 Ondo		6778	9116	31960	16115	15121			
105 Osun	8383	6840	10148	20809	15821	20180			
106 Oyo	10243	6856	9331	39770	15395	9620			
200 South South									
201 Akwa Ibom	11009	9409	17547	29542	20269	21830			
202 Bayelsa						51185			
203 Cross River	15739	8941	8998	20322	28320	24109			
204 Delta	11050	9062	3825		23875	19508			
205 Edo	13618		12900		13500	26753	54410		
206 Rivers	9812	12026	17946		24617	27438	63917		
300 South East									
301 Abia		9719	14394	25183	57400		64120		
302 Anambra	13615	14649	20598	26842	26998	19120		64428	
303 Ebonyi					19040	18372			
304 Enugu	12127	8868	13,715	24213	25802	21427			
305 Imo	12870	9441	17,238	27599	21273	21610	82605	74791	
400 North West									
401 Kaduna	9424	9654		23723	25668	24409	62532	68966	
402 Kano	14333	9998	23435	22104	23987	17090	48231		
403 Katsina					29105				
405 Niger	11046	9967	14150	27355	23040	18238		58349	
406 Sokoto		13229	18481	27735	28363	15600			
407 Zamfara					33905	24743			
500 North Central									
501 Abuja	11067	9335		22555	22610	23144	58082		46867
502 Benue	8494	10111	12340	21466	23632	10785			
503 Kogi	9990	7589	12652	19731	18580	9146	54418	41124	38182
504 Kwara	10587	7575	10177	18166	18939	16780			
505 Nassarawa				30890	22434	16302			
506 Plateau	9102	10026	15336	22307	27494				
600 North East									
601 Adamawa	13121	16739	21801	29462	30805	20569		60000	
602 Bauchi	9586	13002	20504	26082	27717	21312			
604 Gombe					25884	67951	33466		
605 Jigawa	10935	11832	17002	24886	25703	17928			
607 Taraba	9246	11993	23002	30598	27156	24812			
608 Yobe		13654	21418	29127	35574	25936			

Source: PCU 2003.

Maize prices (n/mt) by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
101 Ekiti					31 340	34 850			
102 Lagos	5 935	11 500	16 993	29 072	42 935	26 490			
103 Ogun	7 567	7 938	15 187	21 415	26 900	20 640			
104 Ondo		7 740	9 195	18 968	23 583	23 677			
105 Osun	6 110	5 835	13 612	17 113	19 349	19 978			
106 Oyo	5 968	5 608	12 806	16 710	19 990	12 920			
200 South South									
201 Akwa Ibom	9 621	10 723	24 809	32 849	37 799	36 170			
202 Bayelsa						42 397			
203 Cross River	13 401	12 471	20 345	32 100	48 238	37 076			
204 Delta	11 216	12 992	35 415		37 512	36 178			
205 Edo	11 928		16 667		31 320	26 938	40 498		
206 Rivers	8 080	12 475	23 802		27 500	30 188	47 625		
300 South East									
301 Abia		7 626	15 912	23 447	31 850		50 217		
302 Anambra	10 146	11 567	15 800	27 258	40 348	32 749		42 179	
303 Ebonyi					51 510	33 308			
304 Enugu	8 491	8 752	14 015	23 650	30 670	23 357			
305 Imo	9 661	11 984	14 358	16 081	26,683	24 670	25 262	27 487	
400 North West									
401 Kaduna	4 055	4 768	7 080	13 719	18 704	16 894	31 131	39 380	
402 Kano	4 331	4 828	13 288	12 784	19 630	16 466	26 283		
403 Katsina	3 984	4 306	10 282	13 266	18 462				
404 Kebbi	4 912	4 976	13 191	33 000	17 032	18 732			
405 Niger	4 132	4 027	9 210	12 657	19 040	10 672		30 835	
406 Sokoto	4 888	5 000	11 201	15 572	23 298	16 017			
407 Zamfara					23 733	15 253			
500 North Central									
501 Abuja	5 231	4 975	12 611	14 629	20 872	22 132	39 883		47 283
502 Benue	5 954	7 145	13 802	24 591	32 976	14 758			
503 Kogi	6 759	5 460	8 850	15 636	18 715	12 984	36 219	40 838	29 932
504 Kwara	5 550	5 050	11 274	16 868	19 885	17 932			
505 Nassarawa				15 320	22 107	14 099			
506 Plateau	4 612	4 436	11 970	13 971	18 064				
600 North East									
601 Adamawa	4 332	5 851	11 889	26 018	25 425	11 652		35 497	
602 Bauchi	3 811	4 412	10 640	13 286	20 593	12 591			
603 Borno	4 674	5 075	13 285	18 169	25 875	10 989	29 829		
604 Gombe					18 712	63 955	29 496		
605 Jigawa	4 305	4 964	11 247	16 063	21 793	16 677			
607 Taraba	5 695	7 732	12 966	14 682	22 341	13 632		33 112	
608 Yobe	4 748	5 419	11 766	15 188	23 028	12 476			

Source: PCU 2003.

State urban prices

Urban cassava root prices (n/mt) by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
101 Ekiti						3 000			
102 Lagos				11 250					
103 Ogun	2 174	2 440	1 044	2 871	6 690	7 593			
104 Ondo			2 070	3 895	3 602				
105 Osun	2 158	2 055	2 308	4 768	4 249				
106 Oyo	1 798	2 631	2 501	5 181	3 780				
200 South South									
201 Akwa Ibom	1 499	1 553	2 220	2 650	5 894				
202 Bayelsa						45 016			
203 Cross River	2 161	3 921	4 525	4 330	8 975	10 778			
204 Delta	6 364	3 276	3 070		3 908				
205 Edo	2 552		2 960						
206 Rivers	3 147	4 280	5 731		18 033	6,950	34 875		
300 South East									
301 Abia		4 012	3 810	3 100	6 700				
302 Anambra	3 658	7 822	10 190	12 334	17 625				
303 Ebonyi					7 745	3 652			
304 Enugu	1 380	1 252	1 957	4 005	4 820	6 353			
305 Imo		4 453	4 172	5 676	6 830		22 762	19 285	
400 North West									
401 Kaduna	6 490	9 629		26 727	7 560				
402 Kano		6 874	10 919	14 049	16 818	14 890	15 265		
403 Katsina					21 330				
405 Niger	2 715	4 264	8 206	12 928	18 890	16 541		41 865	
406 Sokoto		9 085	9 311	14 391	17 356	23 233			
407 Zamfara					32 057	20 517			
500 North Central									
501 Abuja					13 000				5 017
503 Kogi					6 458		12 256	11 100	22 088
504 Kwara				19 880	6 275				
505 Nassarawa					9 384				
506 Plateau	4 337	4 174	5 324	8 380	11 584				
600 North East									
601 Adamawa	4 158	7 284	10 622	15 382	14 585	18 057		24 512	
602 Bauchi		5 488	18 588	14 400	13 583				
604 Gombe					14 520		9 378		
605 Jigawa				28 052	20 221	18 540			
607 Taraba	7 407	7 563	10 242	11 032	14 499	14 482			
608 Yobe		11 567	15 848	20 997	23 315	19 960			

Source: PCU 2003.

Urban gari prices by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
101 Ekiti						25 000			
102 Lagos	8 410	11 505	15 418	22 679	24 975				
103 Ogun	9 644	6 997	9 679	19 450	15 982	20 327			
104 Ondo		7 225	9 526	33 045	18 228				
105 Osun	8 796	6 559	10 453	21 339	16 547				
106 Oyo	9 076	6 798	9 541	19 672	15 935				
200 South South									
201 Akwa Ibom	11 448	9 509	17 643	29 900	21 419				
202 Bayelsa						51 705			
203 Cross River	16 538	9 511	9 597	18 205	28 712	25 107			
204 Delta	10 420	9 369	3 570		24 460				
205 Edo	13 840		14 655						
206 Rivers	10 138	12 251	18 938		26 167	31 625	69 167		
300 South East									
301 Abia		11 266	15 588	25 573	67 000				
302 Anambra	16 200	11 867	20 145	27 066	28 125				
303 Ebonyi					18 760	18 722			
304 Enugu	12 194	8 911	14 080	24 575	27 818	26 007			
305 Imo		12 510	17 815	22 977	24 420		83 095	75 120	
400 North West									
401 Kaduna	9 380	10 232		25 212	25 200				
402 Kano	12 440	10 192	19 452	20 854	24 003	16 102	46 398		
405 Niger	9 921	10 449	13 382	25 436	22 966	17 795		58 313	
406 Sokoto		13 647	18 556	27 996	27 836	15 433			
407 Zamfara					29 958	24 137			
500 North Central									
501 Abuja	10 956	9 543		22 656	23 050	22 966	58 059		46 867
502 Benue	8 914	10 677	12 820	23 131	24 318				
503 Kogi	10 728	8 049	13 180	20 166	20 750		58 366	46 234	40 925
504 Kwara	9 619	7 889	10 428	18 788	20 266				
505 Nassarawa					22 905				
506 Plateau	9 268	9 948	15 580	22 555	26 556				
600 North East									
601 Adamawa	12 755	16 779	22 089	30 617	30 425	20 332		65 202	
602 Bauchi	9 714	13 238	20 761	24 174	21 957				
604 Gombe					25 579	17 420	34 668		
605 Jigawa				26 074	27 436	18 647			
607 Taraba	10 511	11 242	24 058	31 744	28 448	24 560			
608 Yobe		13 113	24 969	27 921	33 952	25 372			

Source: PCU 2003.

Urban maize prices (n/mt) by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
101 Ekiti						20 000			
102 Lagos	6 210	11 335	18 103	31 040	46 775				
103 Ogun	7 476	7 976	15 154	21 595	26 817	21 144			
104 Ondo			9 130	19 908	25 102				
105 Osun	6 046	5 807	13 695	18 204	20 070				
106 Oyo	5 921	5 560	13 088	17 241	20 655				
200 South South									
201 Akwa Ibom	10 787	10 719	20 251	33 686	38 753				
202 Bayelsa						46 618			
203 Cross River	13 289	12 917	24 217	33 395	57 150	35 882			
204 Delta	9 918	12 718	44 320		39 128				
205 Edo	12 002		17 913						
206 Rivers	7 393	11 985	23 238		27 133	31 750	50 250		
300 South East									
301 Abia		8 348	17 199	22 923	31 200				
302 Anambra		12 500	16 528	26 911	41 470				
303 Ebonyi					36 200	33 781			
304 Enugu	8 510	9 025	13 795	24 239	30 502	24 593			
305 Imo			13 638	16 174	30 000		25 305	27 539	
400 North West									
401 Kaduna	3 825	5 108	7 260	14 087	20 582				
402 Kano	4 263	5 198	12 278	13 428	20 615	15 573	26 583		
403 Katsina	4 393	4 351	10 320	13 691	22 480				
404 Kebbi		5 169	13 268	15 421	16 312				
405 Niger	4 202	4 095	9 739	13 112	20 164	109 245		31 935	
406 Sokoto		5 253	11 482	15 693	23 348	15 967			
407 Zamfara					24 007	15 602			
500 North Central									
501 Abuja	5 155	5 034	12 682	14 698	21 465	22,270	39 996		47 483
502 Benue	6 705	7 002	14 892	20 997	33 671				
503 Kogi	7 175	5 337	9 640	15 802	20 177		38 116	44 811	30 982
504 Kwara	5 541	5 134	11 887	16 980	21 737				
505 Nassarawa					23 692				
506 Plateau	4 851	4 626	12 588	14 002	18 377				
600 North East									
601 Adamawa	4 369	5 989	11 354	14 008	25 880	12 029		36 492	
602 Bauchi	3 803	5 484	10 939	13 392	14 890				
603 Borno	4 957	5 385	14 013	18 400	26 000	11 848	30 700		
604 Gombe					19 519	10 090	29 819		
605 Jigawa	3 825			16 515	22 996	16 438			
607 Taraba	5 974	8 078	13 237	15 449	22 894	15 098		33 954	
608 Yobe		5 475	12 542	16 421	23 864	12 790			

Source: PCU 2003.

State rural prices

Rural cassava root prices (n/mt) by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
102 Lagos				7 010					
103 Ogun	2 405	2 260	919	2 810	5 282	3 026			
104 Ondo			1 542	1 875	2 905				
105 Osun	3 613	3 300	3 204	4 583	4 003				
106 Oyo	2 284	2 712	2 096	5 246	3 305				
200 South South									
201 Akwa Ibom	1 465	1 506	2 162	2 515	5 283				
202 Bayelsa						45 213			
203 Cross River	1 881	3 114	4 067	4 158	8 435	11 083			
204 Delta	2 660	2 288	4 075		3 675				
205 Edo	1 992		2 985						
206 Rivers	2 093	3 956	6 051		11 247	6 125	32 667		
300 South East									
301 Abia		2 964	2 750	2 780	5 500				
302 Anambra	3 558	6 928	12 120	11 912	20 908				
303 Ebonyi					4 225	3 445			
304 Enugu	1 633	1 381	1 993	3 735	4 472	5 080			
305 Imo		2 808	3 953	5 984	6 690		22 778	37 422	
400 North West									
401 Kaduna	3 490	8 727		21 350	7 158				
402 Kano		6 296	6 924	14 651	16 132	18 228	18 849		
403 Katsina					19 330				
405 Niger	3 373	3 692	9 114	12 048	16 376	15 399		32 612	
406 Sokoto		12 332	9 513	34 034	16 811	18 867			
407 Zamfara					31 928	17 006			
500 North Central									
501 Abuja					12 950				4 835
503 Kogi					9 100		3 214	13 195	7 717
504 Kwara				7 348	5 642				
505 Nassarawa					6 650				
506 Plateau	3 700	3 190	3 982	8 911	10 031				
600 North East									
601 Adamawa	4 012	6 544	11 681	14 306	15 295	15 591		20 026	
602 Bauchi		5 050	17 834	15 312	13 087				
604 Gombe					15 382		5 895		
605 Jigawa				33 321	18 784	14 758			
607 Taraba	3 987	6 811	10 378	9 285	12 989	18 038			
608 Yobe		9 960	15 550	16 774	19 962	16 860			

Source: PCU 2003.

Rural Gari prices (n/mt) by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
102 Lagos	7 648	12 078	13 880	20 645	21 415				
103 Ogun	9 281	7 443	9 376	18 159	15 967	17 837			
104 Ondo		6 715	8 701	30 875	15 617				
105 Osun	9 081	6 710	9 838	20 219	15 236				
106 Oyo	9 454	6 840	9 118	20 067	14 850				
200 South South									
201 Akwa Ibom	11 456	9 337	17 446	29 458	20 883				
202 Bayelsa						50 624			
203 Cross River	16 169	8 370	8 398	17 488	28 400	23 044			
204 Delta	10 508	8 625	4 075		23 288				
205 Edo	13 388		11 140						
206 Rivers	9 352	11 200	16 954		23 067	23 250	58 667		
300 South East									
301 Abia		9 156	12 700	24 800	47 800				
302 Anambra	16 070	10 857	21 048	26 650	26 362				
303 Ebonyi					19 405	18 021			
304 Enugu	12 014	8 718	13 345	23 484	29 334	25 065			
305 Imo		9 494	16 147	20 807	24 420		82 115	74 462	
400 North West									
401 Kaduna	9 478	9 069		22 913	25 787				
402 Kano	17 113	9 982	27 415	23 384	23 297	18 679	46 702		
405 Niger	10 012	9 473	14 910	28 449	23 110	19 093		58 385	
406 Sokoto		12 810	18 507	26 937	28 880	15 767			
407 Zamfara					37 847	25 348			
500 North Central									
501 Abuja	13 174	9 122		22 678	22 162	23 318	58 104		46 867
502 Benue	7 272	9 540	11 772	19 981	23 021				
503 Kogi	9 738	7 106	12 117	19 696	16 203		50 471	36 013	35 571
504 Kwara	9 558	7 245	9 838	17 532	18 508				
505 Nassarawa					21 989				
506 Plateau	9 770	9 943	14 177	19 889	28 428				
600 North East									
601 Adamawa	11 823	16 695	21 674	28 782	29 180	18 250		54 798	
602 Bauchi	9 148	12 762	20 329	23 805	21 200				
604 Gombe					26 185	16 880	31 606		
605 Jigawa				25 748	25 867	17 200			
607 Taraba	9 314	12 739	21 928	29 155	25 289	25 212			
608 Yobe		13 950	22 041	31 167	37 444	26 740			

Source: PCU 2003.

Rural maize prices (n/mt) by state 1993–2003.

State	1993	1994	1995	1996	1998	2000	2001	2002	2003
100 South West									
102 Lagos	5758	11660	15879	26598	39095				
103 Ogun	7593	7900	15034	21607	26980	20132			
104 Ondo			9256	44237	22060				
105 Osun	6147	5818	13525	16424	18621				
106 Oyo	6012	5602	12588	16311	19318				
200 South South									
201 Akwa Ibom	8586	10723	19058	31758	38427				
202 Bayelsa						39766			
203 Cross River	13585	12522	23672	30825	39325	40266			
204 Delta	12608	13262	26510		35890				
205 Edo	11746		15410						
206 Rivers	8763	12960	24360		27600	27125	45000		
300 South East									
301 Abia		7258	14625	24633	32500				
302 Anambra		10633	15067	27695	39220				
303 Ebonyi					64815	32829			
304 Enugu	8520	8560	14228	22680	29706	22750			
305 Imo			15072	15269	30000		25220	27435	
400 North West									
401 Kaduna	4281	4434	6890	13268	19058				
402 Kano	4393	4450	14292	11892	18840	17136	26051		
403 Katsina	3942	4256	10238	12989	21795				
404 Kebbi		4782	13109	14863	16752				
405 Niger	4058	3874	8675	12201	17808	9782		29735	
406 Sokoto	5407	5230	10914	15625	23240	16067			
407 Zamfara					23388	15399			
500 North Central									
501 Abuja	5114	4929	12534	14585	20290	21986	39771		47083
502 Benue	6108	7285	13372	19118	32278				
503 Kogi	7199	5565	8060	15563	17595		34322	36864	28882
504 Kwara	5558	4962	10656	16832	18230				
505 Nassarawa					20918				
506 Plateau	4512	4245	11328	13602	17827				
600 North East									
601 Adamawa	4287	5740	12418	13645	24950	11267		34,501	
602 Bauchi	3889	4850	10337	11818	14280				
603 Borno	4385	4760	12545	17075	25750	10989	28958		
604 Gombe					18654	9980	29172		
605 Jigawa	4395			16974	21521	16909			
607 Taraba	5432	6703	12691	13915	21779	12630		32270	
608 Yobe	4748	5213	10984	14621	22188	12160			

Source: PCU 2003.

Various cassava product prices (n/mt) 2001–2003.

Product	Item	State	2001	2002	2003
Flour	Average	401 Kaduna	35 135	55 621	
		402 Kano	30 570		
		405 Niger		43 074	
		501 Abuja	25 234		37 379
		503 Kogi	26 590	35 433	42 529
		601 Adamawa		48 308	
		604 Gombe	15 198		
Flour	Farm	607 Taraba		32 730	
		402 Kano	47 140		
		402 Kano	31 552		
		405 Niger		41 098	
		501 Abuja	25 179		37 400
		503 Kogi	26 214	33 990	41 882
		601 Adamawa		46 577	
	Urban	604 Gombe	11 600		
		607 Taraba		29 832	
		402 Kano	20 732		
		405 Niger		45 049	
		501 Abuja	25 289		37 358
		503 Kogi	28 761	36 877	43 177
		601 Adamawa		50 038	
Fufu	Average	604 Gombe	18 797		
		607 Taraba		34 600	
		501 Abuja			61 667
		501 Abuja			62 500
Starch	Rural	501 Abuja			61 667
	Average	501 Abuja			80 083
	Rural	501 Abuja			82 500
	Urban	501 Abuja			78 500

Source: PCU 2003.

Monthly cassava prices 2000

Monthly average cassava root prices for 2000 (n/mt).

State	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Adamawa	14440	13380		17260	17410	26330	15540	13590	18270	16210		4380
Akwa Ibom		4980	4570	4890	4940	4430	4260	52500	59480	16840	12740	
Anambra	4080	4060	4080	4120	4140	4100	4130	41400	4150	4160	4170	4200
Bauchi									21490			
Bayelsa	31650	34730	42060	45570	47080	51720	53100	51610	50860	43870	44040	
Cross River	11350				10650	10590	10590	10700	10820	10950	11250	11500
Delta	2280	2280	2280	5000	5000	5000	3700	3700	3700	4990	4930	4930
Ebonyi	3800	3800	3020	2670	4110	4470	3030	3610				
Ekiti	3000	3000	3000		3000	3000		3000	3000	3000	3000	
Enugu	1900	6250	5620	5460	8650	7140		6190	6000	8220	5000	6060
Imo	6790											
Jigawa	14440	18520	12600	14310	16710	29890	18650	17770	14520			
Kaduna	5620	8270	19860	9980	10810		13600	5620	6960	28240	9800	7880
Kano	11740	9910	24070	22980	22860	9660	10520	15820	33800	10970	7230	9330
Kogi		200	200	1200	1100	1000	1000		540	2780	1700	1600
Lagos	14900	14900	14900	30000	30000	30000	32200	32200	32200	22450	22450	22450
Nassarawa	6340	6020	7910	6930	5960	6660	6400	9970	19470	6310	5510	7040
Niger	12270	16310	17370	16910	17160	14550	14470	12160	14050	17540	21840	16080
Ogun	3880	3600	3760	1900	2120	2660			2630	3530	4530	4570
Ondo	1300	1550	2000		1500	1400			3340	1040	1900	1930
Osun	2300	2370	2410	2760		3580				3300	4500	5500
Oyo	2190											
Rivers	5500	6500	7000	7150								
Sokoto		15200	13100	34850								
Taraba	16440	16330						19540	12740			
Yobe	18580	10050			18700			20450			18280	
Zamfara	16550	16930	24260	18570	27130	16620	17960	12750	25370	14350	15840	18000

Source: PCU 2003.

Monthly rural maize prices (n/mt) for 2000.

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Abuja								21 830	20 400	20 000	23 150	24 550
Adamawa	9 290	9 640		10 940	11 470	12 660	9 850	13 060	11 870	12 620		
Bayelsa		17 880	29 270	30 280	33 240	46 380	46 480	46 480	46 490	50 460	50 700	
Cross River	33 930				40 000	40 500	40 500	40 750	41 000	41 010	42 100	42 600
Ebonyi	33 830	38 830	35 160	32 000	34 650	34 330	30 000	23 830				
Enugu											24 000	21 500
Gombe	9 980											
Jigawa	14 670	14 380	14 530	14 200	16 760	23 100	17 060	21 150	16 330			
Kano	12 140	9 660	11 710	12 820	13 150	14 720	14 050	15 560	60 000	13 990	13 550	14 280
Niger	7 650	8 230	7 780	9 010	10 480	10 520	10 610	10 810	9 020	9 990	11 930	11 350
Ogun	18 820	20 130	21 220	22 030	21 680	22 480		18 900	18 100	20 080	18 910	19 100
Rivers	21 000	29 000	29 500	29 000								
Sokoto		14 100	15 400	18 700								
Taraba	8 800	6 750						18 660	16 310			
Yobe	10 000	10 300			10 500			14 500			15 500	
Zamfara	12 670	14 110	15 730	15 670	15 500	16 000	16 210	16 340	14 090	15 790	15 980	16 700

Monthly urban maize prices (n/mt) for 2000.

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Abuja								22 000	21 250	20 000	23 100	25 000
Adamawa	9 580	9 070		11 750	12 100	12 970	12 580	13 170	12 830	14 210		
Bayelsa		35 900	41 800	44 840	45 840	50 850	50 850	48 230	49 990	48 880	49 000	
Cross River	27 500				36 000	36 200	36 200	36 600	37 000	37 040	38 000	38 400
Ebonyi	34 170	39 500	35 250	32 500	35 280	32 390	35 000	26 160				
Ekiti							20 000					
Enugu							21 630				25 150	27 000
Gombe	10 090											
Jigawa	14 700	14 690	14 530	17 010	16 380	19 370	17 290	17 350	16 620			
Kano	11 270	10 400	13 090	13 120	12 520	12 800	13 660	12 210	41 310	15 530	15 020	15 950
Niger	9 910	9 150	9 830	11 720	12 110	1 185 000	12 370	11 650	10 780	12 380	13 030	13 010
Ogun	18 800	18 780	22 720	23 990	21 400	25 030		20 650	20 340	19 990	20 340	20 540
Rivers	30 000	32 000	33 000	32 000								
Sokoto		14 100	15 400	18 400								
Taraba	12 690	11 200						17 500	19 000			
Yobe	10 500	10 700			11 000			15 500			16 250	
Zamfara	14 210	14 170	15 810	16 420	15 970	16 540	10 770	16 990	14 830	16 820	16 210	18 490

Source: PCU 2003.

Valued added from *gari* processing

Estimated valued added gained from processing root to *gari* by state (n/mt).

States	Cassava tuber n/mt	<i>Gari</i> price n/mt	Value added n/mt	Ratio of <i>gari</i> to cassava
100 Southwest	(A)	(B)	(B-A)	(B/A)
101 Ekiti	3 550.00	27 395.50	23 845.50	52.81
102 Lagos	16 075.42	16 439.63	11 081.16	66.30
103 Ogun	2 942.85	13 372.57	10 429.72	4.43
104 Ondo	2 620.76	15 818.01	13 721.40	24.46
105 Osun	3 461.89	13 696.99	10 235.10	2.86
106 Oyo	3 040.76	15 202.57	12 161.81	3.62
200 South south				
201 Akwa Ibom	5 111.01	18 267.63	13 156.62	5.27
202 Bayelsa	45 117.27	51 184.55	6 067.27	49.57
203 Cross River	5 631.49	17 738.32	12 106.83	2.74
204 Delta	3 425.30	13 464.00	10 038.70	2.84
205 Edo	4 066.50	16 692.71	13 642.83	27.07
206 Rivers	6 907.67	18 367.58	11 459.92	2.05
300 South East				
301 Abia	4 182.92	26 674.06	22 491.15	36.31
302 Anambra	10 628.82	20 303.75	9 674.93	1.27
303 Ebonyi	5 324.38	18 706.25	13 381.88	2.92
304 Enugu	3 240.45	17 691.78	14 451.33	5.16
305 Imo	10 156.30	33 357.64	23 201.33	2.52
400 North West				
401 Kaduna	11 461.86	18 575.53	7 113.67	17.25
402 Kano	13 116.51	22 353.30	11 110.57	14.85
403 Katsina	25 465.00	29 105.00	3 640.00	82.52
404 Kebbi				
405 Niger	14 132.58	23 714.41	9 581.84	1.01
406 Sokoto	14 548.01	20 681.47	6 133.45	16.92
407 Zamfara	25 314.58	29 324.17	4 009.58	0.19
500 North Central	8 952.92	27 665.70	25 107.73	75.41
501 Abuja		14 471.50	14 471.50	99.00
502 Benue	8 519.15	23 490.21	18 757.35	46.19
503 Kogi	9 381.13	13 703.89	10 576.85	66.44
504 Kwara	9 483.06	23 208.56	13 725.50	25.85
505 Nassarawa	6 344.70	16 853.30	10 508.60	1.72
506 Plateau	11 278.29	22 082.65	10 804.36	1.16
600 North East	14 491.78	19 700.59	7 624.11	17.08
601 Adamawa				
602 Bauchi	15 747.14	46 917.33	39 043.76	49.82
603 Borno	15 667.39	18 047.47	7 602.54	33.26
604 Gombe	10 566.77	21 134.61	10 567.84	15.00
605 Jigawa	16 990.57	25 141.82	8 151.25	16.88

Source: (PCU 2003) Author's calculations using average price of all available years.

Data to be supplied

Cassava price by varying grades (mt)

Until varying grades and varieties of cassava are well established and understood by participants in the supply chain cassava production by age of harvest could be used as a proxy for varying grades. Prices for cassava harvested at 8–11 months, 12–15 months, 16–18 months could be collected to determine if a discount or premium is paid for different cassava and cassava uses.

Gross margins

Crop mix	Benefit cost	Gross margin	Costs			
	Ratio (D/C)	(D-C)	Revenue (D)	(C = A+B)	Inputs (A)	Labor (B)
Sorghum/Groundnut/cassava	4.81	152 060	192 000	39 940	12 045	27 895
Yam	3.85	529 360	715 020	185 660	129 160	56 500
Yam/cowpea/sorghum	3.71	116 142	159 037	42 895	20 330	22 565
Maize/Groundnut/Cassava	3.56	96 120	133 700	37 580	13 680	23 900
Pepper	3.48	224 440	315 000	90 560	29 960	60 600
Maize/Sorghum/Cowpea (MLSH)	3.31	86 540	124 000	37 460	17 640	19 820
Maize/Sorghum/Cowpea (TSSH)	3.31	86 540	124 000	37 460	17 640	19 820
Yam/Cassava	3.23	126 160	182 800	56 640	29 040	27 600
Yam/Maize	3.20	105 715	153 800	48 085	17 085	31 000
Maize/Sorghum (MLSH)	2.93	64 536	98 000	33 464	15 524	17 940
Millet	2.87	39 115	60 000	20 885	6 505	14 380
Maize (MLSH)	2.85	64 230	98 900	34 670	18 045	16 625
Cassava	2.66	49 940	80 000	30 060	9 560	20 500
Tomato/Onion/Pepper	2.62	106 455	172 000	65 545	39 145	26 400
Yams/Maize/Cassava	2.51	113 475	188 550	75 075	38 080	36 995
Maize/Cotton/Cowpea	2.41	66 800	114 100	47 300	20 230	27 070
Maize/cassava	2.40	38 540	66 000	27 460	7 295	20 165
Maize/Sorghum (TSSH)	2.38	28 798	49,600	20 802	6 502	14 300
Millet/Sorghum/Cowpea	2.38	28 243	48,720	20 477	5 077	15 400
Millet/Cotton/cowpea	2.16	55 081	102,600	47 519	20 174	27 345
Millet/Cowpea (MLSH)	2.15	38 675	72 400	33 725	15 145	18 580
Cowpea	1.97	20 660	42 000	21 340	5 515	15 825
Sweet Potato	1.95	28 000	57 600	29 600	14 350	15 250
Yam/Maize/Sorghum	1.91	48 765	102 560	53 795	23 280	30 515
Pumpkin	1.78	55 700	127 500	71 800	33 400	38 400
Tomato	1.66	35 900	90 000	54 100	27 400	26 700
Millet/Groundnut/Cowpea	1.62	21 680	56 600	34 920	14 805	20 115
Rice (Upland)	1.61	23 110	60 750	37 640	15 090	22 550
Sorghum/Sesame/Cowpea	1.59	13 677	37 000	23 323	7 423	15 900
Millet/sorghum	1.57	9 370	25 800	16 430	3 100	13 330
Maize (TSSH)	1.52	11 859	34 500	22 641	7 816	14 825
Maize/Groundnut/Sorghum	1.45	14 640	47 300	32 660	11 610	21 050
Sorghum (MLSH)	1.37	9 779	36 000	26 221	12 496	13 725
Millet/Sorghum/Groundnut (MLSH)	1.34	11 178	44 300	33 122	12 007	21 115
Rice (Swamp)	1.18	4 625	30 375	25 750	12 025	13 725
Maize/Sorghum/Tomato	1.04	1 055	26 700	25 645	11 115	14 530
Millet/Sorghum/Groundnut (TSSH)	0.97	-608	22 420	23 028	8 588	14 440
Sorghum (TSSH)	0.97	-502	18 000	18 502	6 027	12 475
Millet/Cowpea (TSSH)	0.94	-1 190	19 200	20 390	6 770	13 620
Groundnut	0.68	-7 968	17 325	25 293	10 618	14 675
Sorghum/Groundnut	0.10	-330 040	37 800	367 840	338 940	28 900

Source: (Projects Coordinating Unit 2002) based on enterprise budgets from: Jigawa, Nassarawa, Bauchi, Katsina, Kebbi and Akwa Ibom.

TSSH = Traditional Small Scale Holdings

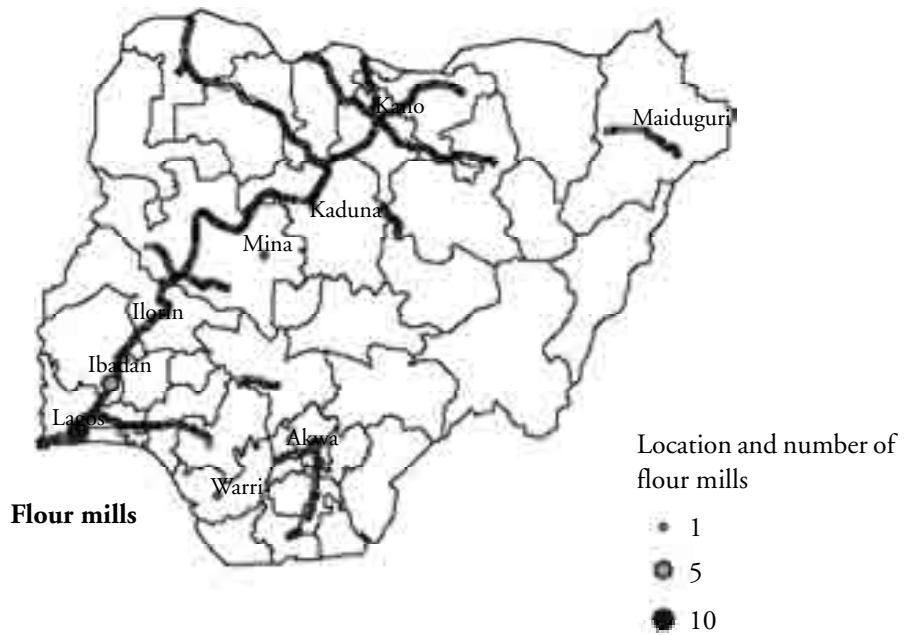
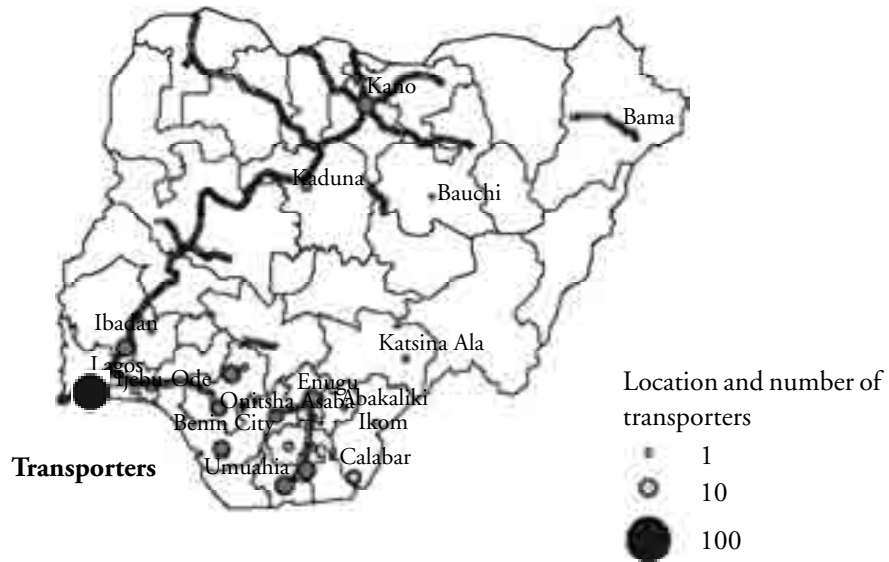
MLSH = Modern Large Scale Holdings

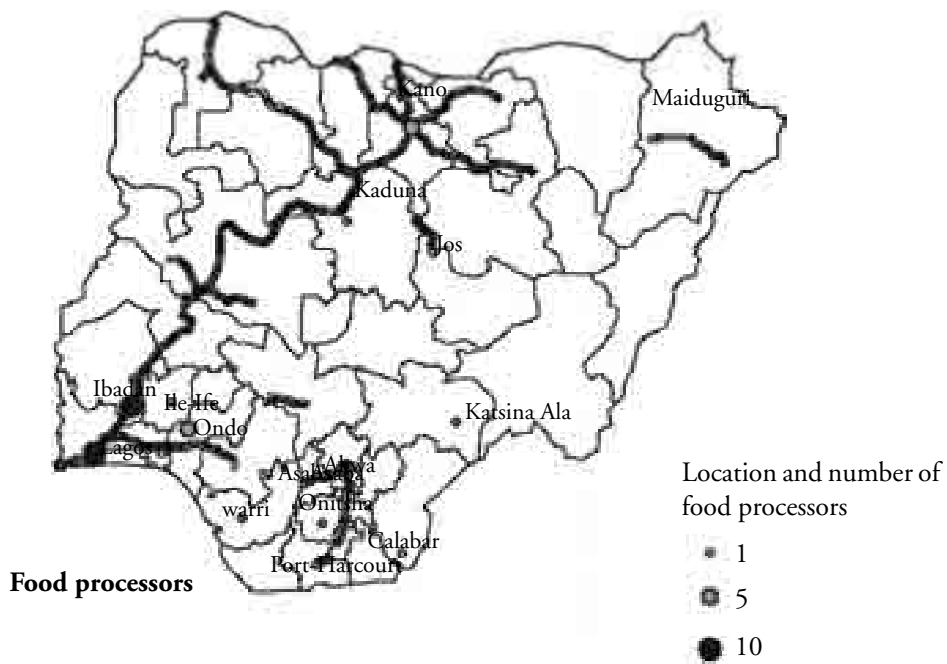
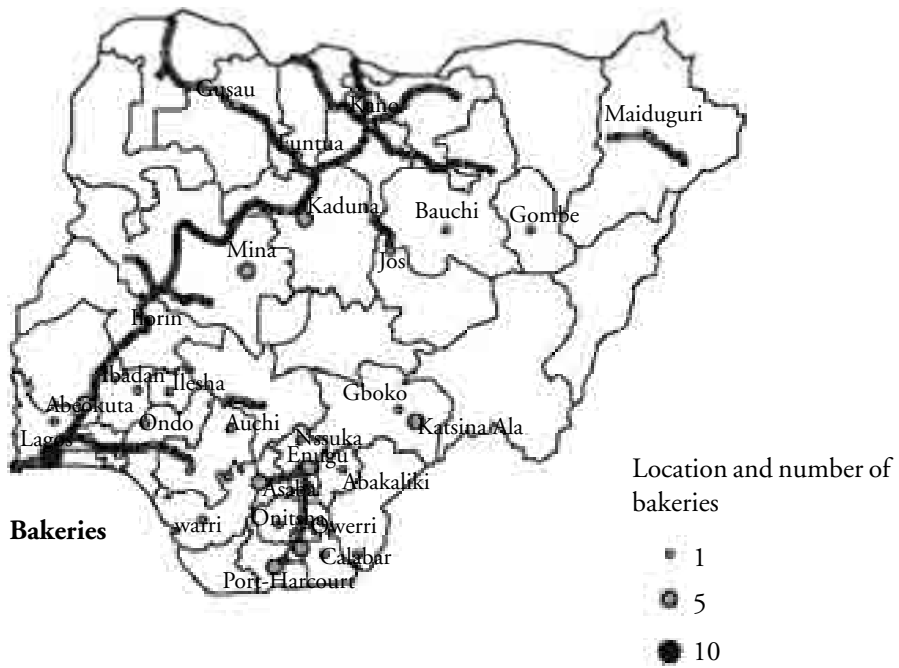
Farm labor costs (₦ per day).

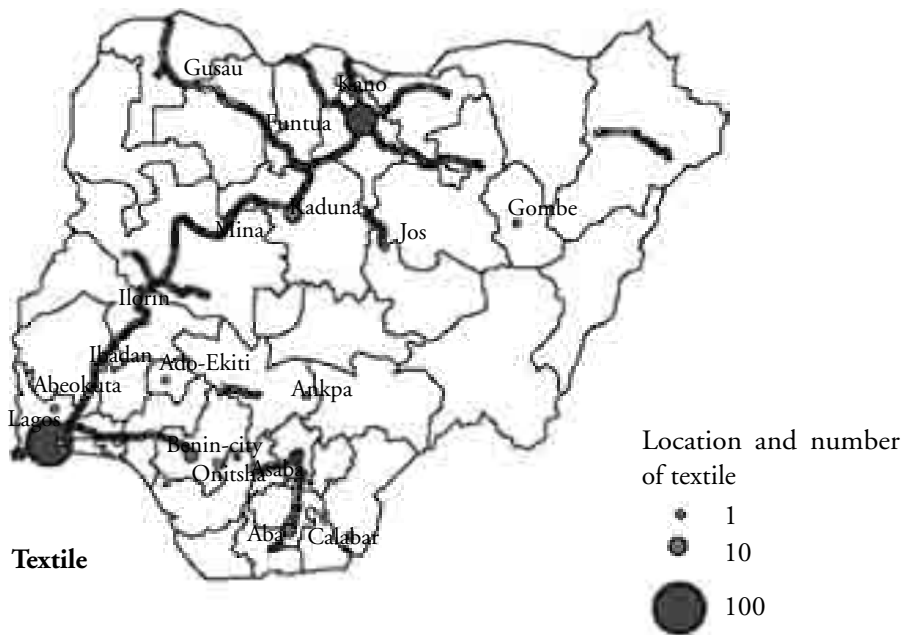
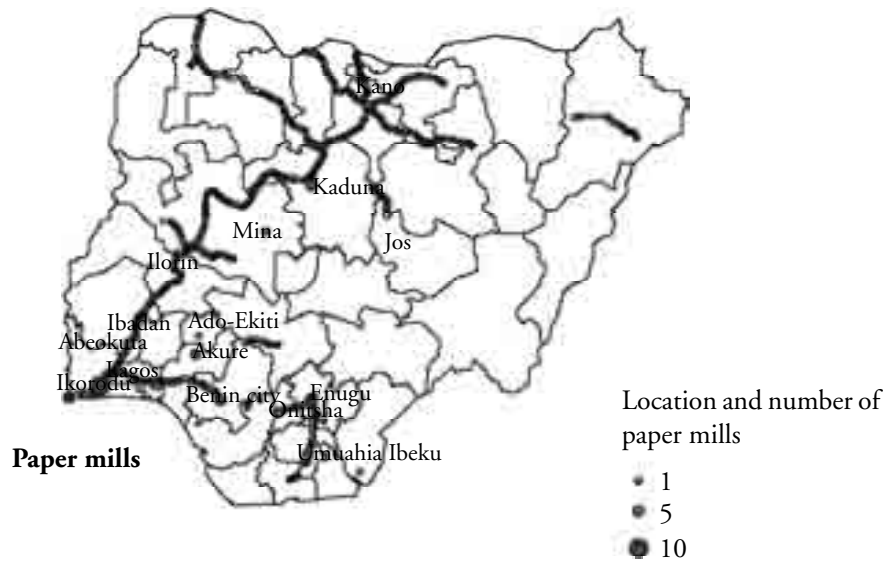
State	Male	Female	Feeding	Unit	Cost of farming
Abia	500		300	1 day, 8am–2pm	
Akwa Ibom	500		300	1 day	65 350
Benue	400			1 day	52 500
Cross Rivers					
Delta	500	400	200	1 day; 7am–4pm	
Edo					
Enugu	550		200	1 day	
Enugu	500		200	1 day	
Imo	500		300	1 day; 8am–4pm	
Kaduna	500		300	1 day; 8am–4pm	54 000
Kogi	400	300		1 day; 7am–12noon	
Ogun					
Ondo	400	300	200	1 day	
Osun	300		200	1 day; 9am–5pm	
Oyo	300		200	1 day	
Rivers					

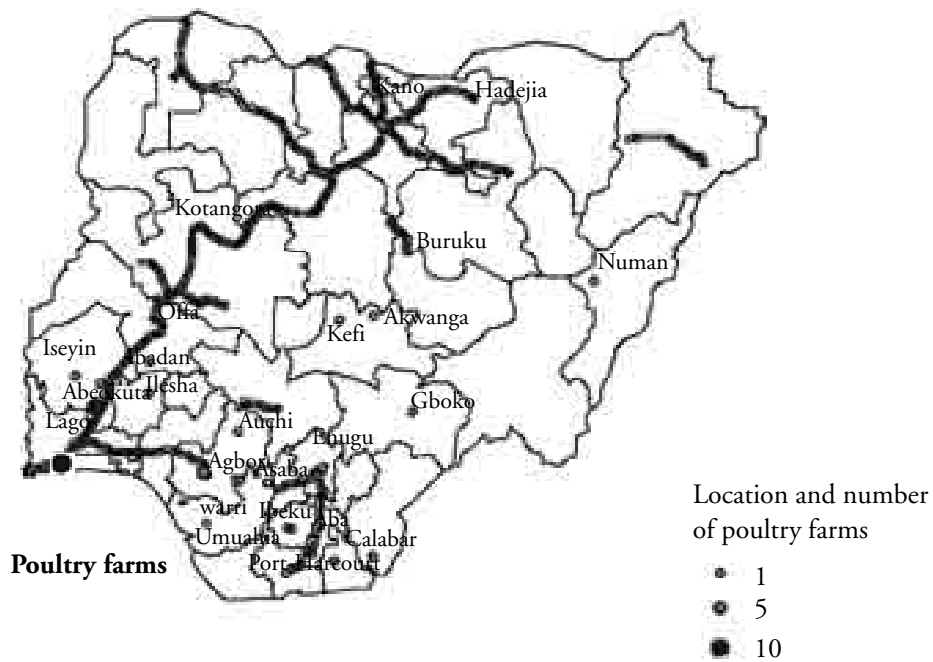
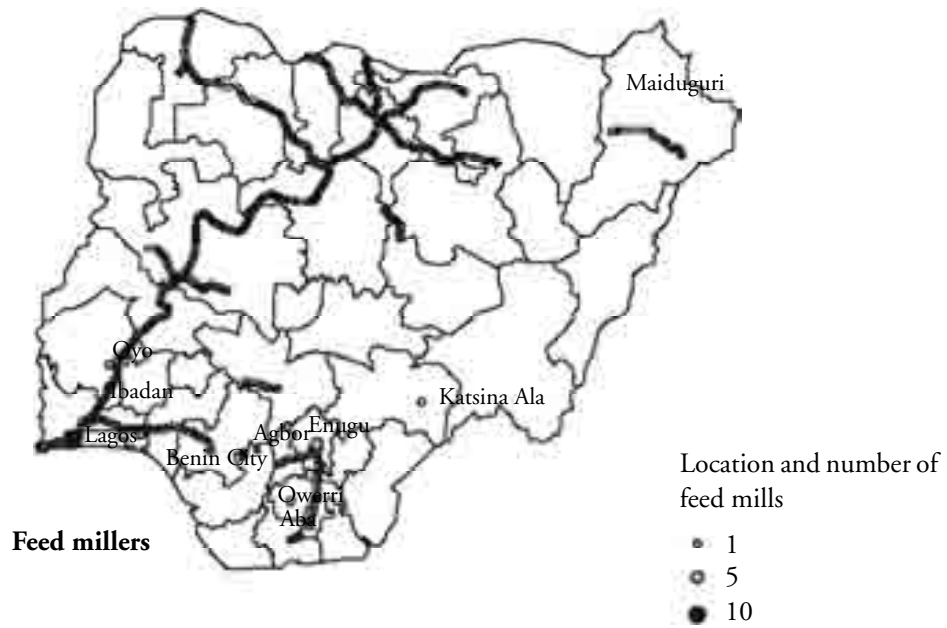
Source: Authors 2003 Note: Activities for men include land clearing, planting, weeding, harvesting, while for women, activities include planting, weeding, transporting, and loading.

Transportation and transaction costs









Costs by distance

Transportation costs per km per ton.

Route	Distance (km)	Capacity (tons)	Cost per km per ton	Cost (N)	Type of vehicle
Ibadan-Abeokuta	77	14	3.25	3500	3-Seater bus
Ibadan-Abeokuta	77	18	3.25	4500	Mazda bus
Ibadan-Abuja	645	30	5.68	110000	Trailer
Ibadan-Bauchi	1070	30	4.98	160000	Trailer
Ibadan-Ilorin	162	14	2.47	5600	3-Seater bus
Ibadan-Ilorin	162	18	2.47	7200	Mazda bus
Ibadan-Iseyin	75	18	3.33	4500	Mazda bus
Ibadan-Iseyin	75	14	3.33	3500	3-Seater bus
Ibadan-Jos	928	30	4.49	125000	Trailer
Ibadan-Kaduna	756	30	4.41	100000	Trailer
Ibadan-Kano	1005	30	4.64	140000	Trailer
Ibadan-Kano	1005	30	3.98	120000	Trailer
Ibadan-Katsina	1065	30	4.07	130000	Trailer
Ibadan-Lagos	141	30	3.55	15000	911 Lorry
Ibadan-Maiduguri	1532	30	3.70	170000	Trailer
Ibadan-Ogbomoso	100	14	3.00	4200	3-Seater bus
Ibadan-Ogbomoso	100	18	3.00	5400	Mazda bus
Ibadan-Oyo	42	18	3.57	2700	Mazda bus
Ibadan-Oyo	42	14	3.57	2100	3-Seater bus
Ibadan-Saki	165	14	2.73	6300	3-Seater bus
Ibadan-Saki	165	18	2.73	8100	Mazda bus
Ibadan-Sokoto	890	30	4.49	120000	Trailer
Ibadan-Yola	1545	30	3.67	170000	Trailer
Ibadan-Zaria	827	30	4.43	110000	Trailer
Owerri-Lagos	574	15	8.13	70000	911 Lorry
Owerri-Lagos	574	15	6.97	60000	911 Lorry

Extraordinary costs and time related to transportation.

Route	Extraordinary costs
Ibadan-Abeokuta	7–10 road blocks
Ibadan-Iseyin	6–8 road blocks
Ibadan-Kano	Travel time 24h and 1005 l of diesel
Ibadan-Kano	Diesel/fuel cost dictates changes in pricing
Ibadan-Lagos	Travel time 3h
Ibadan-Maiduguri	Travel time 48h
Ibadan-Niger	Worst route, many road blocks at ₦100–200
Ibadan-Ogbomosho	30 road blocks
Ibadan-Ogbomoso	8–10 road blocks
Ibadan-Oyo	0–15 road blocks
Ibadan-Oyo	Problems of fuel scarcity, bad roads, no genuine spare parts
Ibadan-Oyo	Eastern part is a very difficult environment for some tribes to pass
Ibadan-Saki	7–10 road blocks
Ibadan-Sokoto	Many bad roads, numerous road blocks
Ibadan-Zaria	Generally transportation time depends on many factors
Kaduna roads	Fewer road blocks and more road repairs
Lagos alone	Travel time 2h
Lagos-Kano	Transportation costs ₦20 000–30 000
Ojoo-Iwo	6 road blocks
Ojoo-Mokola	7 road blocks
Uyo-Ikot Abasi	4000 to 5000 km a long distance

Transaction costs

Transaction costs moving product from rural to urban centers (₦/mt)

Urban prices less rural prices by product and state (averages of available data 1996–2000).

States	Cassava	Chips	Flour	Gari	Starch
100 South West					
101 Ekiti					
102 Lagos	4 240			1 464	
103 Ogun	1 018			669	
104 Ondo	1 082			1 529	
105 Osun	-633			522	
106 Oyo	50			138	
200 South South					
201 Akwa Ibom	177			268	
202 Bayelsa	-196			1 082	
203 Cross River	325			967	
204 Delta	980			331	
205 Edo	268			1 984	
206 Rivers	1 734			3 059	
300 South East					
301 Abia	907			6 243	
302 Anambra	-759			483	
303 Ebonyi	1 864			28	
304 Enugu	246			271	
305 Imo	-2 743			1 117	
400 North West					
401 Kaduna	2 420			694	
402 Kano	-377	-5 608	-10 820	-1 137	
403 Katsina	2 000				
404 Kebbi					
405 Niger	1 828	5 880	3 951	55	
406 Sokoto	-3 636			114	
407 Zamfara	1 820			-4 550	
500 North Central					
501 Abuja	116	-1 183	34	-190	-4 000
502 Benue				1 655	
503 Kogi	4 669		2 243	3 935	
504 Kwara	6 582			862	
505 Nassarawa	2 734			916	
506 Plateau	797			340	
600 North East					
601 Adamawa	443			1 099	
602 Bauchi	194			520	
603 Borno					
604 Gombe	-862			-33	
605 Jigawa	-17			1 114	
607 Taraba	623		4 768	1 154	
608 Yobe	2 516			-1 203	

Data to be supplied

Major urban centers

States and cities	30 km radius	60 km radius	90 km radius
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Major centers to ports.

Centers	Apapa	Cont. Terminal	Tin Can Island	Roro	Warri	Koko	Sapele	Port Harcourt	Onne	Calabar
-	-	-	-	-	-	-	-	-	-	-

Domestic indicators

GDP, rates, and indices

Gross Domestic Product (GDP) and % by major categories 1980–2001.

Year	Total GDP	Agriculture GDP %	Industrial manufacturing GDP %	Industrial non manufacturing GDP %	Services GDP %
	(Million US \$)	As % of total (at factor cost constant 1995 prices)			
1980	21 661	30	5	58	7
1981	19 258	28	7	57	9
1982	19 192	29	7	54	10
1983	18 162	30	6	49	15
1984	17 236	30	5	53	12
1985	18 853	32	6	50	12
1986	19 444	34	5	45	15
1987	19 352	33	6	44	17
1988	21 270	33	6	44	17
1989	22 841	33	5	45	17
1990	24 714	31	5	44	19
1991	25 883	31	6	46	18
1992	26 654	31	5	45	19
1993	27 183	31	5	43	21
1994	27 199	31	5	42	22
1995	27 866	32	5	41	22
1996	29 072	32	5	42	21
1997	29 852	32	5	42	21
1998	30 393	33	5	41	22
1999	30 647	34	5	39	22
2000	31 957	34	5	40	21
2001	32 883	35	5	39	21

Source: ADB 2004.

Nigerian population and urbanization rate.

Year	Urban % population	Population
1980	27.40	64 325
1981	28.30	66 231
1982	29.20	68 116
1983	30.00	70 017
1984	30.80	71 988
1985	31.50	74 068
1986	32.40	76 268
1987	33.30	78 574
1988	34.10	80 972
1989	33.60	83 437
1990	35.40	85 953
1991	34.80	88 515
1992	34.10	91 129
1993	33.40	93 794
1994	32.80	96 511
1995	32.20	99 278
1996	34.60	102 096
1997	36.90	104 963
1998	39.10	107 879
1999	41.20	110 845
2000	43.10	113 862
2001	43.80	116 929
2002		

Source: ADB 2004.

State population and average household size.

State code	Name	Population	Average household size
100	South West		
101	Ekiti	1 535 790	4.86
102	Lagos	5 828 172	4.37
103	Ogun	2 193 047	3.93
104	Ondo	2 249 486	4.59
105	Osun	2 086 192	4.41
106	Oyo	3 388 623	4.48
200	South South		
201	Akwa Ibom	2 409 314	5.13
202	Bayelsa	1 067 793	5.21
203	Cross River	1 911 596	4.94
204	Delta	2 590 491	4.53
205	Edo	2 172 005	5.08
206	Rivers	3 186 864	5.43
300	South East		
301	Abia	1 913 917	4.55
302	Anambra	2 643 980	4.79
303	Ebonyi	1 325 162	5.17
304	Enugu	2 125 338	4.76
305	Imo	2 491 377	4.62
400	North West		
401	Kaduna	3 989 700	5.59
402	Kano	5 767 582	5.13
403	Katsina	3 742 449	5.19
404	Kebbi	2 069 490	5.62
405	Niger	2 421 941	5.39
406	Sokoto	2 397 000	4.90
407	Zamfara	2 017 176	4.94
500	North Central		
501	Abuja	376 525	4.62
502	Benue	2 753 077	5.65
503	Kogi	2 147 756	5.42
504	Kwara	1 602 982	4.80
505	Nassarawa	1 401 226	5.81
506	Plateau	2 071 360	5.79
600	North East		
601	Adamawa	2 102 053	5.16
602	Bauchi	2 861 887	8.16
603	Borno	2 536 003	4.44
604	Gombe	1 489 118	5.64
605	Jigawa	2 873 049	5.05
607	Taraba	1 512 163	6.14
608	Yobe	1 399 687	4.79

Source: Geospatial laboratory.

Inflation, lending, and savings rates.

Year	Inflation rate (%)	Prime lending (%)	Savings (%)
1980			
1981			
1982			
1983			
1984			
1985			
1986			
1987			
1988			
1989			
1990			
1991	7.29	21.40	5.20
1992	29.17	20.25	6.10
1993	53.17	21.00	10.11
1994	55.28	21.00	12.61
1995	71.11	21.00	12.61
1996	48.25	38.10	16.66
1997	16.60	31.20	16.10
1998	7.74	20.80	14.29
1999	10.34		
2000	3.29		
2001	15.62		
2002	16.16	22.84	5.58

Source: Central Bank of Nigeria.

Index of agricultural productivity by type of activity (1989–91=100).

	Agriculture	Cereals	Crops	Food	Livestock	Non Food
1980	57.7	43.2	51.4	58.0	90.2	41.0
1981	57.5	45.3	52.0	57.8	85.3	41.2
1982	59.6	47.2	53.4	60.2	92.0	30.2
1983	61.0	49.0	53.6	61.7	100.1	27.0
1984	64.4	57.8	57.1	65.1	103.3	31.0
1985	69.4	64.9	60.8	70.2	116.0	31.8
1986	74.1	79.0	69.3	74.7	101.5	45.3
1987	75.1	85.8	70.4	75.5	104.0	55.4
1988	86.0	89.3	83.7	86.3	99.9	68.8
1989	92.7	100.6	91.9	92.9	97.6	82.9
1990	97.6	97.1	97.1	97.4	101.4	104.9
1991	109.7	102.2	111.0	109.7	101.0	112.2
1992	117.6	107.6	119.9	117.6	102.4	116.8
1993	123.4	109.5	125.4	124.2	110.7	85.2
1994	127.4	109.4	129.3	128.3	115.5	86.1
1995	131.7	122.2	134.5	132.3	115.2	100.7
1996	138.6	118.6	142.1	139.1	115.4	115.7
1997	142.2	120.2	145.6	142.7	118.7	122.4
1998	148.4	121.2	151.0	148.9	128.5	125.6
1999	153.8	122.9	156.8	154.3	131.5	129.0
2000	155.0	118.1	156.1	155.5	141.6	130.3
2001	152.8	109.4	153.0	153.2	145.3	131.2
2002	158.3	120.9	159.0	158.8	149.2	133.4

Source: FAO 2004.

Trade balance

Nigerian trade balance 1980–2002.

	Exports millions US\$ A	Imports millions US\$ B	Trade surplus millions US\$ (A-B)	Oil as % of exports
1980	25 945	14 728	11 217	
1981	17 845	18 985	1 140	
1982	12 149	14 874	2 725	
1983	10 356	11 436	1 080	
1984	11 856	8 856	3 001	
1985	13 114	7 447	5 667	
1986	5 085	3 138	1 947	
1987	7 560	4 082	3 478	
1988	6 875	4 355	2 520	
1989	7 871	3 693	4 178	
1990	13 585	4 932	8 653	
1991	12 254	7 813	4 441	
1992	11 791	7 181	4 611	
1993	9 910	6 662	3 248	
1994	9 459	6 511	2 948	
1995	11 734	8 222	3 513	
1996	16 117	6 438	9 679	95.3
1997	15 207	9 501	5 706	94.7
1998	8 971	9 211	240	96.9
1999	12 876	8 588	4 288	99.0
2000	20 441	12 373	8 068	99.6
2001	17 560	11 641	5 919	99.6
2002				
2003				

Source: ADB 2004. Oil export percentage taken from Nigerian foreign trade summary, Federal Office of Statistics.

Nigerian exchange rates.

Year	1 US\$ = ₦	1 ₦ = \$US	1 EU = ₦	1 ₦ = EU
1980	0.55	1.8349		
1981	0.63	1.5873		
1982	0.67	1.4925		
1983	0.74	1.3605		
1984	0.79	1.2658		
1985	0.95	1.0582		
1986	2.54	0.3945		
1987	4.08	0.2451		
1988	4.95	0.2022		
1989	7.51	0.1332		
1990	8.52	0.1174		
1991	9.89	0.1012		
1992	18.48	0.0541		
1993	21.98	0.0455		
1994	22.00	0.0455		
1995	21.90	0.0457		
1996	21.89	0.0457		
1997	21.89	0.0457		
1998	21.89	0.0457	103.09	0.0097
1999	95.15	0.0105	101.01	0.0099
2000	105.63	0.0095	96.15	0.0104
2001	113.64	0.0088	101.01	0.0099
2002	119.05	0.0084	111.11	0.0090
2003	128.21	0.0078	144.93	0.0069

Source: ADB 2004.

Government expenditures**Government recurrent expenditures 1999–2001.**

	1999	2000	2001	Change(%)
Agriculture & National resources	4 469.80	4 834.70	6 979.60	56
Aviation	746.00	736.80	832.80	12
Commerce	931.30	870.90	1 020.70	10
Communication	1 301.70	1 057.80	1 917.40	47
Industry	659.10	1 256.10	1 758.40	167
Petroleum resources	3 269.10	3 169.00	3 864.50	18
Power & steel	1 462.40	2 414.50	3 922.50	168
Science & technology	1 048.50	1 078.50	1 380.40	32
Solid mineral development	569.10	549.80	647.40	14
Transport	1 329.90	1 257.90	1 602.30	20
Water resources & rural development	769.00	783.30	1 009.70	31
Work & housing	3 895.40	3 808.60	4 359.10	12
Total	20 451.30	21 817.90	29 294.80	43

Government capital expenditures 1999–2001.

	1999	2000	2001	%
Agriculture & National resources	6 912.60	5 761.70	10 595.10	53
Aviation	1 121.90	2 825.00	2 174.70	94
Commerce	469.50	2 329.70	2 661.90	467
Communication	753.50	776.50	477.40	37
FCT projects	-	20 329.10	26 800.00	32
Fertilizer procurement	3 082.00			100
Foreign financed counterpart project	4 200.00	6 138.90	2 000.00	52
Housing			4 600.00	
Industry	600.00	3 783.50	7 420.60	1137
Niger Delta projects	800.00	94.40	15 577.70	1847
Petroleum resources	251.00	105.90	463.90	85
Petroleum trust fund projects	5 592.00	16 000.00	10 000.00	79
Power & steel	7 095.60	48 462.10	78 197.00	1002
Science & technology	779.40	1 857.90	1 473.50	89
Solid minerals development	1 197.80	2 165.00	1 332.50	11
Special infrastructure projects	4 469.50			100
Transport	2 560.20	2 244.40	23 002.20	798
Water resources	6 923.90	13 529.90	63 752.00	821
Works & road development	14 712.30	35 613.40	70 445.00	379
Total	61 521.20	162 019.40	320 973.50	422

Source: Nigerian Business Information <http://www.nigeriabusinessinfo.com>

Budgeted federal expenditure (%) by sector 2002.

Sector	2002
Agriculture	2
Education & human capital	8
Federal capital territory	10
Health	7
Internal affairs	6
National identity card	5
Power & steel	18
Science & technology	2
Sports & social development	7
Transport	5
Water resources	14
Works & housing	15

Source: Nigerian Business Information <http://www.nigeriabusinessinfo.com>

World cassava

Production

Cassava area '000 ha.

Country	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Angola	440	440	406	910	940	1052	576	523	523	523
Brazil	1826	1812	1851	1946	1509	1552	1579	1571	1722	1656
Congo, D.R.	2472	2420	2473	2500	2081	2115	2092	2033	1097	1902
Ivory Coast	300	305	310	620	645	655	335	335	335	255
Ghana	552	532	520	1102	1181	1159	630	650	650	600
Indonesia	1351	1402	1357	1324	1415	1243	1205	1350	1284	1318
Madagascar	340	347	350	699	699	713	360	352	352	350
Mozambique	973	842	908	1971	1986	1991	1015	958	953	926
Nigeria	2755	2844	2927	2944	2946	2697	3043	3072	3072	3135
Tanzania	684	657	693	1170	1168	1244	745	656	810	761
Thailand	1451	1438	1383	1245	1228	1230	1044	1065	1131	1024
Uganda	362	369	320	664	670	684	356	375	382	382
Other										
Total					16191	15987	14839	14925	14371	15321

Source: FAO 2004.

Cassava production '000 mt.

Country	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Brazil	21919	21856	24464	25423	17743	19896	19503	20864	23336	22479
Congo, D.R.	19780	18890	19102	38278	16987	16973	17060	16500	15959	15436
Ghana	5662	5973	6025	13223	14222	13800	7227	7845	7845	8512
India				11786	11443	11868	6000	5800	5800	
Indonesia	16516	17285	15729	15441	17002	15134	14696	16438	16089	17055
Madagascar	2280	2350	2360	4800	4724	4836	2412	4896	4691	2228
Mozambique	3239	3511	3352	7775	9468	10679	5639	5353	10005	5362
Nigeria	29184	30128	31005	31404	31418	32050	32695	32697	32697	33854
Tanzania	7112	6833	7209	17906	17898	17316	13161	14363	12878	5500
Thailand	20356	20203	19091	16217	17388	18084	15591	16507	19064	18396
Uganda	2896	3139	2080	4448	4490	4582	3204	8175	4966	4966
Other										
Total					160128	162806	164899	171212	175961	153076

Source: FAO 2004.

Yields.

Country	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Benin	8.38	8.49	8.15	8.17	8.72	9.54	10.50	10.60	10.66	10.77
Brazil	12	12.06	13.22	13.06	11.76	12.82	12.35	13.28	13.55	13.58
Cameroon	16.36	16.48	16.01	17.17	16.73	16.80	16.19	16.32	16.28	11.33
Cape Verde	11.54	11.88	11.54	11.85	11.65	11.54	11.54	11.54	11.54	11.54
Congo, D.R.	8	7.81	7.72	7.80	7.85	7.77	8.16	8.11	14.55	8.11
Ghana	10.26	11.23	11.58	11.99	12.04	11.91	11.48	12.07	12.07	14.19
Guinea Bissau	16.66	16.66	16.48	17.86	18.84	19.11	16.30	16.50	16.50	16.19
Indonesia	12.22	12.33	11.59	11.66	12.02	12.17	12.19	12.18	12.53	12.94
Kenya				9.14	9.84	10.15	13	13.99	15.76	
Mali				7.41	8.43	12.49	10.95	10	10	
Mauritius				14	14.50	15.48	15	24.29	18	
Nigeria	10.59	10.59	10.59	10.68	10.67	11.19	10.75	10.64	10.64	10.80
Somalia				10.03	10.13	10.26	10	10	10	
Thailand	14.03	14.05	13.81	13.02	14.16	14.70	14.93	15.49	16.86	17.96
Uganda	8	8.51	6.50	6.70	6.70	6.70	9	10.90	13	13
Other										
Mean					9.89	10.18	11.11	11.47	12.24	9.99

Source: FAO 2004.

Trade

World volumes and value.

	Year	Cassava dried	Cassava starch	Cassava tapioca
Imports (mt)	1996	4 278 004	700 836	36 084
	1997	4 129 997	762 434	75 202
	1998	3 825 847	689 850	34 733
	1999	5 149 593	792 631	29 298
	2000	4 773 389	1 038 332	33 844
	2001	5 659 414	967 607	35 367
	2002	3 722 533	1 145 532	40 834
Imports (1000\$)	1996	661 096	209 625	16 079
	1997	475 554	181 111	18 650
	1998	390 726	164 799	13 244
	1999	486 726	158 516	13 955
	2000	399 313	179 940	14 922
	2001	453 165	182 133	16 691
	2002	328 445	223 375	16 469
Exports (mt)	1996	4 514 631	539 872	40 381
	1997	4 917 050	750 878	46 191
	1998	4 055 574	552 722	59 806
	1999	5 143 597	701 039	77 414
	2000	3 961 771	983 323	37 816
	2001	5 356 983	832 518	47 791
	2002	3 617 009	867 405	55 230
Exports (1000\$)	1996	620 586	160 524	20 748
	1997	497 840	190 571	19 238
	1998	380 200	140 906	26 049
	1999	429 924	137 275	24 362
	2000	274 685	155 972	19 342
	2001	347 002	146 699	23 506
	2002	283 821	160 015	23 640

Source: FAO 2004.

Import volumes by world region (mt) 1996–2002.

Region	Year	Cassava dried	Cassava starch	Cassava tapioca
Africa	1996	340	3 100	347
	1997	996	1 258	377
	1998	693	1 674	327
	1999	2 338	1 653	360
	2000	1 552	3 384	288
	2001	481	2 482	51
	2002	389	9 521	47
Europe (15)	1996	3 480 211	10 356	1 551
	1997	3 069 807	11 610	1 496
	1998	2 959 209	9 607	1 002
	1999	4 494 037	10 425	819
	2000	3 985 970	17 756	1 029
	2001	3 138 417	18 981	1 308
	2002	1 726 709	16 832	3 757
Europe (other)	1996	17 835	5 456	33
	1997	108 675	2 764	38
	1998	35 616	1 388	55
	1999	396	1 660	115
	2000	157 515	3 291	115
	2001	7 280	3 512	495
	2002	6 218	12 759	909
Latin America	1996	1 491	10 219	119
	1997	2 847	11 664	83
	1998	2 235	8 812	97
	1999	511	7 994	18
	2000	7 810	11 794	9
	2001	9 757	16 743	79
	2002	792	21 264	119
North America	1996	33 799	26 228	6 951
	1997	36 976	15 720	6 947
	1998	37 429	21 119	7 426
	1999	39 021	32 262	8 660
	2000	43 034	30 501	6 949
	2001	47 415	20 231	6 958
	2002	51 265	23 386	8 249
SE Asia	1996	743 235	591 386	13 135
	1997	908 798	662 860	55 202
	1998	789 148	592 798	9 211
	1999	610 580	674 920	5 435
	2000	574 711	897 918	8 687
	2001	2 449 406	829 669	13 829
	2002	1 934 040	963 231	13 352
Other	1996	1 028	11 914	12 414
Includes South Asia	1997	1 796	10 271	9 646
Australia and New Zealand and Others	1998	1 277	14 972	14 740
	1999	2 438	9 658	11 488
	2000	1 861	25 286	14 054
	2001	4 696	22 360	9 871
	2002	2 452	30 828	11 297

Import values by world region ('000\$) 1996–2002.

Region	Year	Cassava dried	Cassava starch	Cassava tapioca
Africa	1996	20	1 016	104
	1997	212	409	100
	1998	102	501	91
	1999	117	429	162
	2000	97	659	442
	2001	46	449	21
	2002	42	1 756	18
Europe (15)	1996	518 550	4 915	1 589
	1997	341 035	4 211	1 485
	1998	270 764	4 292	796
	1999	397 739	4 264	686
	2000	305 766	5 517	805
	2001	221 064	6 800	844
	2002	142 801	6 227	1 444
Europe (other)	1996	2 963	2 433	50
	1997	12 131	1 105	61
	1998	4 042	646	75
	1999	584	804	116
	2000	13 119	1 322	112
	2001	1 682	1 142	257
	2002	846	3 112	421
Latin America	1996	160	4 050	130
	1997	697	4 330	100
	1998	796	2 932	91
	1999	198	2 126	42
	2000	1 830	3 284	22
	2001	887	3 906	69
	2002	282	5 014	102
North America (3)	1996	21 780	11 980	4 795
	1997	27 718	6 620	4 396
	1998	29 649	8 759	4 252
	1999	20 711	11 500	5 103
	2000	23 740	10 224	4 035
	2001	28 577	6 954	4 126
	2002	22 512	6 427	4 574
SE Asia	1996	116 937	167 896	4 955
	1997	92 770	147 637	9 129
	1998	84 409	133 385	2 456
	1999	65 955	126 519	2 500
	2000	53 243	146 289	3 771
	2001	198 179	148 625	8 215
	2002	160 276	182 180	6 197
Other	1996	656	3 059	3 535
Includes South Asia	1997	927	2 640	2 598
Australia and New Zealand and Others	1998	787	3 566	4 464
	1999	1 288	2 289	3 960
	2000	985	4 526	4 580
	2001	1 676	4 568	2 012
	2002	1 432	6 224	2 318

Export volumes by world region (mt) 1996–2002.

Region	Year	Cassava dried	Cassava starch	Cassava tapioca
Africa	1996	13 628	34	472
	1997	6 879	17	431
	1998	104	59	413
	1999	216	242	424
	2000	733	78	463
	2001	2 265	80	469
	2002	602	295	617
Europe (15)	1996	249 109	10 431	287
	1997	233 984	759	185
	1998	344 525	1 492	149
	1999	345 238	1 632	264
	2000	359 656	2 796	284
	2001	279 149	4 099	386
	2002	229 026	5 291	327
Latin America	1996	54 447	14 475	649
	1997	57 535	12 462	765
	1998	56 714	15 049	753
	1999	57 602	10 636	770
	2000	62 834	10 819	995
	2001	69 200	24 880	1 003
	2002	79 235	29 592	1 131
North America (3)	1996	480	710	5
	1997	757	464	66
	1998	452	226	12
	1999	122	2 667	21
	2000	133	6 801	493
	2001	258	5 190	
	2002	274	3 734	7
SE Asia	1996	4 192 666	484 464	26 181
	1997	4 612 056	697 970	36 341
	1998	3 649 162	500 095	48 448
	1999	4 736 282	642 148	65 670
	2000	3 534 641	915 899	22 624
	2001	5 001 548	763 419	29 179
	2002	3 304 429	788 087	34 050
South Asia	1996	4 192 753	485 933	32 459
	1997	4 612 134	700 742	43 024
	1998	3 649 180	500 926	56 166
	1999	4 736 370	643 719	73 499
	2000	3 534 667	918 139	32 091
	2001	5 001 558	765 620	40 211
	2002	3 304 474	792 569	44 444
Other	1996	3 050	3	12
Includes	1997	2 345	0	0
Other Europe, Australia	1998	2 329	7	5
New Zealand and Others	1999	1 979	11	31
	2000	2 011	16	32
	2001	3 089	37	18
	2002	2 060	64	11

Exports values by world region ('000\$) 1996–2002.

Region	Year	Cassava dried	Cassava starch	Cassava tapioca
Africa	1996	1 272	14	133
	1997	581	6	138
	1998	81	46	125
	1999	58	55	130
	2000	90	29	156
	2001	229	26	131
	2002	280	87	169
Europe (15)	1996	40 859	1 765	554
	1997	29 080	581	461
	1998	34 431	1 048	512
	1999	37 128	1 154	552
	2000	32 648	1 927	439
	2001	25 963	2 306	1,917
	2002	24 874	3 449	540
Latin America	1996	27 483	5 160	554
	1997	36 321	4 423	610
	1998	38 794	4 595	545
	1999	22 425	2 937	540
	2000	23 573	3 263	678
	2001	28 922	5 495	530
	2002	30 463	5 831	584
North America	1996	204	128	4
	1997	299	466	42
	1998	213	190	13
	1999	92	1 015	30
	2000	81	2 490	854
	2001	154	1 905	
	2002	150	1 545	9
SE Asia	1996	549 147	141 430	10 029
	1997	429 486	171 077	9 096
	1998	304 668	124 009	14 417
	1999	368 370	118 926	14 070
	2000	216 298	135 835	6 210
	2001	288 838	127 505	7 680
	2002	226 120	138 328	9 906
South Asia	1996	549 245	142 006	18 193
	1997	429 546	172 897	17 155
	1998	304 680	124 407	23 270
	1999	368 436	119 764	21 998
	2000	216 317	136 860	16 074
	2001	288 850	128 722	19 039
	2002	226 138	140 477	19 502
Other	1996	886	1	17
	1997	927	0	2
	1998	1 028	4	15
	1999	867	9	36
	2000	1 119	22	45
	2001	2 131	30	46
	2002	1 211	25	11

Importers of note (mt) 1996–2002.

Region	Year	Cassava dried	Cassava starch	Cassava tapioca
China	1996	13 261	102 562	1 128
	1997	29 064	82 005	569
	1998	31 720	69 433	378
	1999	37 879	78 875	716
	2000	22 077	71 166	1 240
	2001	155 628	90 919	1 576
	2002	142 973	119 732	2 777
Colombia	1996	11	846	
	1997	381	845	3
	1998	485	711	
	1999		64	5
	2000	1 439	631	5
	2001	623	1 282	9
	2002	28	603	
Japan	1996	3 896	27 871	303
	1997	2 141	20 932	192
	1998	2 546	21 453	225
	1999	2 420	19 815	222
	2000	2 161	20 657	470
	2001	2 032	23 221	746
	2002	1 606	24 013	1 172
Korea Rep	1996	632 269	3 652	57
	1997	584 842	3 111	1
	1998	463 300	2 744	2
	1999	212 464	1 672	2
	2000	291 792	4 030	24
	2001	444 941	3 684	16
	2002	156 770	9 051	79
Malaysia	1996	246	20 565	1 846
	1997	246	9 500	1 846
	1998	24	15 474	189
	1999	25	16 511	334
	2000	23	13 457	312
	2001	17	11 528	408
	2002	71	15 841	580
South Africa	1996		932	
	1997	2	164	
	1998	1	295	
	1999		222	
	2000	0	388	
	2001		344	
	2002		1 442	
USA	1996	20 911	10 839	3 620
	1997	26 680	5 457	3 362
	1998	28 775	7 599	3 326
	1999	20 074	9 744	4 150
	2000	23 064	7 757	3 176
	2001	27 727	4 927	3 238
	2002	21 728	4 318	3 562

Importers of note ('000\$) 1996–2002.

Region	Year	Cassava dried	Cassava starch	Cassava tapioca
China	1996	13 261	102 562	1 128
	1997	29 064	82 005	569
	1998	31 720	69 433	378
	1999	37 879	78 875	716
	2000	22 077	71 166	1 240
	2001	155 628	90 919	1 576
	2002	142 973	119 732	2 777
Colombia	1996	11	846	
	1997	381	845	3
	1998	485	711	
	1999		64	5
	2000	1 439	631	5
	2001	623	1 282	9
	2002	28	603	
Japan	1996	3 896	27 871	303
	1997	2 141	20 932	192
	1998	2 546	21 453	225
	1999	2 420	19 815	222
	2000	2 161	20 657	470
	2001	2 032	23 221	746
	2002	1 606	24 013	1 172
Korea Rep	1996	98 689	1 410	71
	1997	60 460	774	3
	1998	49 316	760	3
	1999	24 790	344	16
	2000	28 015	696	45
	2001	39 514	743	59
	2002	15 083	1 898	100
Malaysia	1996	246	20 565	1 846
	1997	246	9 500	1 846
	1998	24	15 474	189
	1999	25	16 511	334
	2000	23	13 457	312
	2001	17	11 528	408
	2002	71	15 841	580
South Africa	1996		932	
	1997	2	164	
	1998	1	295	
	1999		222	
	2000	0	388	
	2001		344	
	2002		1 442	
USA	1996	20 911	10 839	3 620
	1997	26 680	5 457	3 362
	1998	28 775	7 599	3 326
	1999	20 074	9 744	4 150
	2000	23 064	7 757	3 176
	2001	27 727	4 927	3 238
	2002	21 728	4 318	3 562

Exporters of note (mt) 1996–2002.

Region	Year	Cassava dried	Cassava starch	Cassava tapioca
Brazil	1996	6	14 399	649
	1997	7	12 392	761
	1998	8	13 375	726
	1999	258	9 749	766
	2000	248	9 086	990
	2001	262	17 936	979
	2002	764	24 780	1 077
Costa Rica	1996	52 658		
	1997	52 810		
	1998	52 872		20
	1999	56 196		
	2000	58 615		
	2001	64 020		
	2002	72 297		
Ghana	1996	10 244	24	20
	1997	6 035		
	1998	22	7	
	1999	45	21	
	2000	56	12	
	2001	30	12	
	2002	369	130	61
Indonesia	1996	388 591	17 924	9 810
	1997	247 001	7 338	18 863
	1998	221 404	82 803	31 617
	1999	284 388	49 295	48 273
	2000	151 439	7 683	5 443
	2001	177 075	10 928	8 946
	2002	70 429	20 082	9 738
South Africa	1996		6	
	1997	2	6	
	1998		9	
	1999	12		
	2000	0	23	
	2001	8		
	2002	2	2	
Thailand	1996	3 728 747	451 126	13 448
	1997	4 283 756	675 472	15 671
	1998	3 349 051	415 548	14 893
	1999	4 269 186	591 236	15 861
	2000	3 246 962	906 422	15 921
	2001	4 684 648	748 819	18 737
	2002	2 904 153	767 420	22 612
Vietnam	1996	74 498		
	1997	80 276		
	1998	78 000		
	1999	182 000		
	2000	135 057		
	2001	138 500		
	2002	328 277		

Exporters of note ('000\$) 1996–2002.

Region	Year	Cassava dried	Cassava starch	Cassava tapioca
Brazil	1996	15	5 116	553
	1997	7	4 369	602
	1998	5	4 190	519
	1999	223	2 682	536
	2000	133	2 820	669
	2001	162	4 304	503
	2002	389	5 222	519
Costa Rica	1996	27 175		
	1997	35 679		
	1998	37 426		11
	1999	21 806		
	2000	22 516		
	2001	27 338		
	2002	27 895		
Ghana	1996	914	8	6
	1997	453		
	1998	7	8	
	1999	16	19	
	2000	27	9	
	2001	12	17	
	2002	234	57	13
Indonesia	1996	47 614	5 576	2 759
	1997	22 729	2 669	2 500
	1998	20 402	21 711	8 294
	1999	23 454	9 254	8 496
	2000	10 809	1 675	1 195
	2001	13 687	2 820	1 898
	2002	6 067	3 028	2 345
South Africa	1996		4	
	1997		4	
	1998		10	
	1999	6		
	2000	0	9	
	2001	2		
	2002	1	1	
Thailand	1996	487 781	132 525	5 276
	1997	397 568	165 346	5 136
	1998	277 093	101 632	4 601
	1999	327 883	108 914	4 602
	2000	192 593	133 594	4 068
	2001	262 057	123 242	4 503
	2002	191 227	135 020	5 520
Vietnam	1996	13 065		
	1997	8 550		
	1998	6 400		
	1999	16 000		
	2000	12 100		
	2001	12 500		
	2002	27 407		

Thailand

Thai domestic market price(Baht THB).

	Bangkok	Khon Kaen	Korat	Bang Sai/ Nakhonluang	ChonBuri/ Bangpakong
Roots 30% starch content	-	100–110	108–115	-	106–113
Chips	-	230	238–245	262–268	260–266
Hard pellets	-	-	-	-	-
Tapioca starch super high grade	620–650				

Baht: 100 Kgs. (16–31 December, 2003) *Source:* Thai Tapioca Trade Association 2004.

Thai foreign market price (16–31 December, 2003).

Product	Description	Price	
Tapioca flour/starch	Super high grade	175–185 US\$/mt	FOB Bangkok
Tapioca hard pellets	Shipment: E.U. Dec 03	82–83 US\$/mt	FOB Koh Sichang
	Shipment: E.U. Jan–June 04	80–81 US\$/mt	
Tapioca chips	Shipment: China Dec 03–Jan 04	74–75 US\$/mt	FOB Rotterdam,
Tapioca hard pellets	Delivery: Afloat	115–116 EU/mt	Customs cleared
	Jan–June 04	112–113 EU/mt	

Source: Thai Tapioca Trade Association 2004.

Thai area, production, and yield.

Year	1999/00	2000/01	2001/02	2002/03	2003/04
Harvesting acreage (ha)	1 226 142	1 101 177	988 220	1 079 117	1 115 705
Total production (mt)	20 264 748	18 265 417	16 868 309	18 306 063	20 429 236
Yield (mt/ha)	16.527	16.587	17.069	16.964	18.311

Source: Thai Tapioca Trade Association 2004.

Thai exports 1996–2002.

Mt

Year	Cassava dried	Cassava starch	Cassava tapioca	Cassava equivalent
1996	3 728 747	451 126	13 448	12 544 698
1997	4 283 756	675 472	15 671	15 152 055
1998	3 349 051	415 548	14 893	11 024 092
1999	4 269 186	591 236	15 861	14 249 120
2000	3 246 962	906 422	15 921	13 438 310
2001	4 684 648	748 819	18 737	16 120 280
2002	2 904 153	767 420	22 612	11 621 252

Source: FAO 2004.

'000 US

Year	Cassava dried	Cassava starch	Cassava tapioca	Cassava equivalent
1996	487 781	132 525	5 276	673 937
1997	397 568	165 346	5 136	609 147
1998	277 093	101 632	4 601	407 738
1999	327 883	108 914	4 602	459 812
2000	192 593	133 594	4 068	351 022
2001	262 057	123 242	4 503	408 456
2002	191 227	135 020	5 520	346 783

Source: FAO 2004.

Data to be supplied

World production costs in major cassava producing countries

Agricultural interest rates

Land costs

Labour costs

Fertilizer cost

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