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FOOD PRICES IN SOUTH WEST PROVINCE

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A Study of Food Crops in Twelve
Markets

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TWO-YEAR REPORT: 1988-90

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I. INTRODUCTION

Since August 1988, prices for fourteen crops have been followed in twelve markets in the four divisions of South West Province. Biweekly recordings of price, weight and unit have been made and collateral data taken. This report presents the data from the first two years of the study, with such analysis as is possible to date. Many questions about price trends and influences require a longer period for adequate study. The project is intended to continue indefinitely.

Prices for food crops in the South West Province of Cameroon have experienced a slight decline over the past two years. Although there are substantial seasonal shifts, with a general price increase in most crops during the peak of rainy season, the relative prices in different markets have remained stable. With few exceptions, a market with cheap garri in 1988-89 had cheap garri again in 1989-90, and an expensive market in the first year remained so in the second. Most of the tuber crops exhibit major and erratic price swings throughout the period.

II. METHODOLOGY

Data collection

Sampling of markets

Twelve markets were selected for the study, using information gathered from the Farming Systems Surveys and from TLU and Ministry of Agriculture staff. The plan was to obtain examples of the full range of existing markets in each Division, based on criteria of market size, type (receiving or exporting foodstuffs, selling to farmers or townspeople), frequency (daily, once or twice a week) and location (dispersed throughout the Province). This ambition was constrained by the need to pick markets that could be accessed in a reasonable amount of time (eg, Akwaya, which takes a minimum of 1.5 days to reach from Ekona and is near no other candidate, and Bangem and Fontem, which take almost as long and are inaccessible in rainy season, were excluded from consideration); and that were covered by a market official, whom we selected as the biweekly monitors (this meant that we could cover no really small markets except the capital of Mundemba). Two markets had to be substituted for similar ones nearby because of difficulties of the monitors. The markets are described, and placed in the provincial marketing context, in Section II.

Sampling of crops

Ten crops were chosen for the study: Zea mays (maize), Manihot esculenta (cassava), Xanthosoma sanittifolium (cocoyams, ie. macabo), Colocasia esculenta (taro), Musa (plantains and bananas), Dioscorea spp (yams), Ipomoea batatas (sweet potatoes), Solanum tuberosum (irish potatoes), Arachea hypogaea (groundnuts) and Citrullus lanatus (egusi melon seed). These, with rice, form

the principal elements of the South Western diet. Potatoes are actually a very small part of that diet, but are important to the RA Root Crops Program; rice, somewhat more important than potatoes, was excluded because, due to the heavy importation of Thai rice, the price never varies. Within these crops, several variations were usually recorded: fresh maize cobs and dried grain (sometimes, in remote markets, on the cob); cassava as roots and as processed grits (garri); taro as the popular short-season variety called "Ibo" and as the traditional long-season one called "country coco" or "mami coco"; both plantains and bananas because in some parts of the province, bananas are substituted in most cooking; and white (*D. rotundata*), sweet (*D. dumetorum*) and water (*D. alata*) yams because their harvesting and distribution patterns are different and all are common in at least part of the province. In addition, we soon discovered that in some markets at some times, egusi was only sold shelled ("cracked"), and that in many, groundnuts were seldom sold unshelled except in planting and harvest seasons. We thus had to separate and analyze these two forms separately, although there was no data from any market for both forms at once until June 1990.

Monitor selection and training

In most cases, market monitors are the market officials ("Market Masters" or their assistants) in charge of the market selected. Market Masters were chosen because: (a) it was observed that they usually have good relations with the marketwomen, but also have authority over them, so they can ask to weigh goods without major problems; (b) they collect tax on the basis of quantities brought to the market, not money earned or prices charged; and (c) they are constantly in the market and know the day-to-day shifts in prices and availability. Two Masters had to be replaced with other people intimate to the markets, in one case a local farmer-trader and in the other a Ministry of Agriculture staff member, because of time constraints on the Masters. Monitors were given training in recording, weighing and keeping the calendar at the start of the project, usually in their own markets, and then visited two months later to collect forms and correct errors. By the five-month visit, most monitors were seen to be recording correctly. Three had to be changed at this time, due to persistent lapses, in two cases requiring changes of markets, and one was put through a further training in weighing. The three who were changed were replaced by people who immediately began to record accurately, perhaps because of our greater experience in training on the form. Thus the data from the first five months is both less accurate and excludes three markets, two of them in Nnewe.

Recording system

The record form is to be found in Annex A (page ?). The monitor is expected to fill out a sheet for the same market day, at about the same time, every two weeks. In practice, sometimes a family crisis or professional requirement prevents them, and they are asked to substitute the week before or

after and then return to schedule. During June to August 1986, the TLU carried out a pilot study in Fako (10 markets) which included recording at 8am, 11am, and 2pm; no difference was seen in prices between the times, although in some markets, sales the previous evening or very early in the morning, and late in the afternoon, go for lower prices. The monitor, as a habitué of the market, knows well what the going prices are, and is also not likely to be told a bargaining price (too high) on inquiry because the marketwomen know he is not buying. For each item, he selects the most common unit of sale for that day, in terms of quality and quantity. After asking to confirm the price, he asks to weigh it, moving small items into a small sack and large ones into a larger one for the purpose. The TLU has provided 25kg hanging scales accurate to 100g for the purpose. Items heavier than 25kg have to be broken up, which causes some problems; especially in the case of garri, for which only one monitor has succeeded in weighing basins (which are cheaper per weight and common in producer markets) rather than cups. The Tombel Master innovated approaching customer who had just bought and asking to weigh as they transfer to their own carrier. When the information is collected every three months, each form is checked and anomalies questioned. For one year from February 1989, each monitor was also asked questions concerning importers and exporters to/from the market at that season. An attempt was made to quantify market size from numbers of tickets sold, but the results were sometimes so disparate from visual evidence that it was abandoned.

Data analysis

Data losses and corrections

Sometimes markets are not covered during a 3 week period, and sometimes a crop is forgotten or recorded without the weight or the price. A different code is used for these occasions so that it does not register as "unavailable". When the weight per price of a crop seems very far out of line with other recordings from that market and neighbors, and the monitor cannot explain why, it is treated in this same manner. Garri presented a particular problem; weight per cup (the standard measure) varies wildly within many markets, much more so than the variation (about 10%) found in a sample taken of 4 sellers one day¹. It was decided in the preliminary report to convert garri prices to francs per cup and then back to francs per kilo according to a standard cup weight of .15kg. However, for this report, recorded weights have been used.

Creation of prices, unit weights and graphs

Weights, numbers of units (tubers, coops, cups or bunches) and cost were entered into SYSTAT, and conversion programs written to obtain unit weight (kg per unit) and price (cost per kilo). Monthly prices (by Division and Province)

¹ However, all these were of garri made with palm oil, since at the end of the market only this type was left.

were put through SYSTAT's SERIES program to smooth the time series with two-point moving averages, thus reducing incidental surges. Data was then plotted in GRAPH to produce the time series found in Annex I.

Data analysis

Monthly averages and divisional and market averages were calculated, and all markets were added together to obtain trends by unit weight across the province.

In order to judge the relative cost of markets, a "market basket" was created. First, the average price of a crop for each market was divided by the provincial average price, in order to get its cost in that market relative to the whole sample. Then, the major items of the diet were selected and weighted impressionistically, based on their dietary contribution, as below:

- maize: average of green and dry scores (relative cost)
- cassava: average of root and garri scores
- cocoyam: score
- taro: average of Ibo and country scores
- plantain: score
- banana: one quarter of score
- yam: one half score for white, plus one half of (sweet or water score if one absent, or their average)
- potato: one quarter of sweet potato score
- egusi: average of cracked and uncracked scores, or score of one if both not present
- groundnuts: same as egusi

Finally, these scores were summed for each market and divided by 8.5 (the score obtained if a market were to be average on each crop), to obtain the "basket", or cost of the whole market relative to the province.

"Market availability" was measured as the percentage of market days recorded on which the crop form was available in the market during the recording process. There is no way in our present collection methods to say how much of a crop is available in the markets.

As an estimate of divisional and provincial availability, we calculated the estimated monthly harvest for maize, cassava, cocoyams, plantains, yams and taro from the provincial farming systems surveys (Aloy and Besong 1987-89). However, no data was available for these for Fako Division, and the Manyu Division data for year-end crops (yams, cocoyams and taro) contradicted observed harvest patterns, so have been omitted. The provincial variable thus encompasses two or three divisions for each crop. The dry-maize availability is considered to occur one month after green-maize availability, due to drying time.

An external demand variable was created for each market by the monitor's estimate of the average number of pick-up trucks (or truck-equivalents in taxi or larger truck) entering the market on a market day to purchase food. This question was asked at quarterly intervals and averaged across the year.

Variables for market distance from the nearest urban market and metropolis were created. An urban market is one in which consumers outnumber farmer-sellers. A metropolis is one in which the number of consumers is very large, in this case Douala and Bamenda. Distance was measured in the amount of time it takes a Land Cruiser in good condition to get from the local market to the other in dry season, ordinary rainy season, and the high rains.

"Variability" was measured by the coefficient of variation (the standard deviation divided by the mean) for each crop. "Within-market variability" is the coefficient of variation for each market, for each crop. Average within-market variability is the mean of within-market variabilities across markets.

Farming Systems Surveys

A series of farming systems surveys were done in 1986 through 1988 of the four divisions of SWP (Almy and Besong 1987-89). Production and sales data from these are used to give context to crop marketing. The next report will include comparisons of crop harvest periods with marketing trends.

Programming

The entire analysis and graphing are programmed to work automatically once the data is entered. Copies of the program are available on request.

II. Provincial Markets

Although almost all farmers in South West Province (SWP) market some of their crops, averaging a high 49% of value (Almy and Besong 1987-89), there are wide variations both among locations and among crops in how far the marketed produce is carried before resale. The smallest markets occur weekly and are frequented almost entirely by villagers, who buy from each other those crops which they have not harvested or processed that week or planted that year. Often a villager, sometimes an outsider, will go to a larger nearby market to buy items scarce in the village and resell at the local market. Villages in regions with a specially large surplus of some crop often receive specialized traders at their markets, who buy a bag or a pick-up-load of the crop for resale in large SWP towns, Douala, or beyond. Such regions include the main road through Kumba between Tombel and Bekora/Mbonge, and the Fako road from Kumba through Muyuka, Muea to Mutengene. The fishing port markets of Ekondo Titi

Beach and Mudeka also receive large numbers of traders, who buy fish and help the local farmers to supply the fishermen with agricultural produce. Much of Ndian, and all of Manyu, have only localized trading, due to the nature of the roads and, in Ndian especially, low level of production.

In general, SWP markets can be classified according to the nature of the majority of buyers and sellers as in Chart 1.

The selected markets include three village markets (two of mixed-type), five farmers' urban markets (two of mixed-type), five farmers' export markets (two of mixed-type), one urban and one fish market. No village traders' or export hub markets have been found in the province.

Markets and marketing are characterized below, by Division, and a summary is presented in Chart 2 (p. 9). Tables 1 (p. 10) and 2 (p. 10) provide mean relative costs of crops and the market basket in the two years 1988-89 and 1989-90 (September to August). On the whole, markets retained their relative order in terms of overall costliness between the two years, although some of their crops became relatively more or less expensive.

Chart 1: Classification of Markets

Buyers \ Sellers	Farmers	Traders
Farmers	village	village traders'
Employed workers	farmers' urban	urban
Traders	farmers' export	export hub
Fishermen	fish	

Fako Division markets

Fako Division is a major exporter of urban specialty foods to Douala and points beyond. These include, in order of importance, cassava garri, green maize for street roasting, wet-season yams, leafy vegetables, okra, sweet potatoes, dry-season tomatoes, seasonal citrus, papaya and avocado pears. The largest markets are at Tiko and Limbe, which are permanent markets with large urban non-farming clientele, and Muea, a biweekly market which draws large numbers of individual consumers as well as traders from Fako, Kumba and Douala, to buy a wide variety of produce. Traders also go to Muyuka, Yoke and Malende Markets in search of cassava garri and roots; the roadside markets from Yoke through Mbalangi in Meme sell roots to Muyuka for processing. Smaller markets around Buea and Tiko Sub-Divisions sell general produce to

passing cars and residents of neighboring villages, and the proximity of the markets allows farmers to take their produce home and try again, avoiding the desperate price swings found in Idian (below).

Most of the maize and okra, and some of the garri and fruits, are sold at roadside to traders who come to wait at the end of principal farm roads in season, or who send orders to local commission agents to prepare a truck-load of garri for delivery. Roadside prices are extremely low; maize cobs sell for a third of the local market price at the peak of the green season in July. Commission agents' prices are the same as the local market (Boya 1989). Dried maize grain is also shipped up from Muea area to Bamenda in that region's pre-harvest scarcity period.

The three markets chosen for Fako were Muea, Mudeka and Yoke.

Muea, the largest farmers' market, has large numbers of both farmer and trader road-sellers, and sells a wide variety of produce to wholesale traders, townspeople, plantation workers and farmers. Sunday is the big day, and the one recorded, but there is a minor market on Thursdays and permanent butchers and small shops. Many farmers choose to come very early Sunday morning, sell their produce at half price, buy their needs at similar prices, and get home to control the inperial yam and plantain sellers, both to drive up prices and to discourage thefts from the fields. Muea is among the more expensive markets in the province, but only 3% above standard in 1989-90. Green maize² and cocoyams are most consistently expensive; dry maize (often from North West Province), white yams and groundnuts are relatively cheap. The Sunday market keeps a Master and two assistants fully occupied, and attracts large numbers of pick-ups both buying and selling, as well as passenger cars from as far as Douala.

Mudeka is a medium-sized market existing because of its fishing port. Fishermen living around the creeks converge there are Tuesday night and Wednesday morning to sell their fish to truckers from all over the south of Cameroon, and to buy the food produced locally and brought in by Muea and Muea area traders. Buyers for Limbe and Buea schools also come to Mudeka to buy fish, and stock up with plantains and tubers at the same time. Almost all food prices are high relative to provincial ones, and none are cheap. The recording is done Wednesday morning, when the main fish trading is over and mostly local farmers and townspeople are buying. (Fish markets tend to slip backwards in time as they follow tides. Mudeka Market was held Wednesday to Thursday in 1988-89).

Yoke is a medium-sized farmers' market, attracting some trader-buyers for

² Most green maize is sold direct to traders as women leave their farms. The prices we found at these roadheads are about one-third of simultaneous Muea Market prices.

garri, plantains and dry-season yams. Villagers from nearby in Meme sometimes bring loads of plantains and yams to sell to southern traders who come seldom to the southern Meme markets. They also bring cocoyams and plantains to the Yoke farmers who cannot easily grow them locally. Yoke farmers, in turn, sometimes take produce into the larger neighboring Muyuka Market for sale. Yoke Market meets weekly throughout the day. Since buyers are limited, prices are cheap, among the lowest in the sample. Sweet yams brought the consistently highest prices.

Meme Division markets

The bulk of Meme's population lives between Tombel on the east, the urban township of Kumba and the farming communities extending west to Kwakwa and Ekondo Titi. Food marketing is also concentrated in these areas, with almost every village having a weekly market that attracts traders with pick-ups and lorries, primarily in search of cheap cocoyams and plantains to carry to Kumba and Douala. Besides the weekly markets, many truckers come and commission loads of plantains inside the villages. South of Kumba, however, truckers tend to bypass the markets; large yam producers here sell at roadside to pick-ups and cars. North of Kumba, the farmers concentrate on cocoa, and produce little food surplus, which goes into local markets.

The Tombel Sub-Division markets nearest Tombel and the main road receive large numbers of trucker-buyers from Littoral (Loum, Nkongsamba and Douala) for their cocoyams, plantains, green maize and bananas, as well as farmers from villages to the north who trek or bring their produce in local taxis. Bangem Sub-Division has few markets and basically feeds itself, but some produce is carried out by pick-up to sell in Nielong (Littoral). Nguti Sub-Division produces little food, and must feed its two towns by sending traders to Manyu and Kumba to buy food for re-sale at high prices.

Markets chosen for Meme Division were Fiango, Konye and Ebonji:

Kumba Market, the original choice, was replaced by Fiango after 5 months. Kumba, with a larger permanent shop area, serves the western side of Kumba (town and villages), while Fiango serves the eastern half. Both have small permanent food sectors (stalls and ground vendors) and large food markets twice a week, Fiango always the day before Kumba. In Fiango, hundreds of farmers from the eastern villages lay out small amounts of produce every market day, joining the stall sellers who live in town. Prices are low-medium for the province, and do not decline drastically at beginning or end of day. The only outside traders are highlanders who bring beans, potatoes, tomatoes and onions to sell in Kumba Market, and carry the excess to Fiango. Local hawkers make purchases at the market to sell door-to-door. No others come to buy for re-sale. Food markets are Tuesday and Friday, and recording is done Tuesday mid-morning. No data exists before January 1989.

Konye is a large village market feeding its own town population from

nearby farmers. Konye Market meets Saturdays; local farmers are the sellers, local townspeople and farmers the buyers, and a few pick-ups and taxis from Kumba and Manyemen (Nguti) buy plantains, bananas, cocoyams and fruit. Prices are average for the province, with dry maize being very expensive. No data exists before January 1989.

Ebonji Market is an active village market on the roadside near the Tombel intersection of the Loum-Kumba road. The area produces a large amount of cocoyams, plantains, taro and maize, and truckers come in from both directions, but especially Littoral, to buy at roadside as farmers return from the field, and in the market. The Kumba traders bring in manufactures, egusi, yams, garri and fish to sell before buying local produce. Some local farmers buy up produce from villages further from the road to sell at the market. Ebonji is one of the cheapest markets. The market continues from Wednesday evening through Thursday afternoon, and the recording takes place Thursday morning.

Ndian Division Markets

Ndian Division has very few markets, whether large or small. The only moderately large ones are at and around Ekondo Titi. Ekondo Titi Beach Market is a fishing port specializing, like Mudeka, in exchange of fish for land produce, as well as in Cameroon-Nigeria trade. Ekondo Titi Town Market provides food to the large urban population there. Bekora and Mbonge Markets draw in the local surpluses of garri, egusi seed and yams, and sell them to traders coming in pick-ups from Kumba and Douala. Garri is mostly sold at the market, but much of the egusi is negotiated for at the farmer's house. Mbonge is actually in Meme Division, but serves more Ndian farmers than Meme ones due to its position as a roadhead³, beyond which the roads to Bamusso Sub-Division are very unreliable.

These larger markets are subject to major price fluctuations from week to week, due to the unpredictability and major role of outsider traders. Traders from inside Cameroon come one week, discover that there are too few cassava or egusi or yam sellers and the prices are too high, and go elsewhere the next week; meanwhile the farmers, finding the prices high, bring more the next week. Farmers near Mbonge say the price of garri can double or halve from one week to the next. The Nigerian traders (many also fishermen) decide that locals are willing to pay high prices for yams, and bring so many that they flood the market the next week. During the egusi planting season, egusi seed prices halved in Ekondo Titi due to a sudden influx of Nigerian egusi, anticipating a sellers' market.

There are at least two other smaller beach markets, at Boa Beach (serving Bamusso Village's islanders), and Dibonda Beach (connecting many of Mundemba's riverside villages with the Mundemba-Ekondo Titi road, and attracting okra/maize

³ A roadhead town or market is a place at the end of a motorable road, with a large, roadless hinterland.

buyers in dry season). There have been attempts in recent years to set up internal village markets around Mundemba Town and in the Rumpi Hills at Dikome Balue; these markets are very small.

The three markets chosen for Ndian were Mbonge, Ekondo Titi Town and Mundemba Town I.

Mbonge, though in Meme, serves all of Bamusso, in addition to the Mbonge area itself. Bekora, inside Ndian on another branch of the road, is somewhat larger and also a farmers' market, but was thought to be too close to Ekondo Titi for balance. Traders from Bole on the Kumba road sometimes bring a pick-up of plantains and cocoyams to Mbonge to sell to long-distance traders and locals. Bamusso farmers exchange their crops for shellfish at Boa Beach and bring the fish to Mbonge, and farmers from an hour around bring in garri, egusi, yams, plantains and cocoyams. Prices are medium, except for high dry-maize prices. Mbonge Market meets bi-weekly, until about mid-day, Wednesdays and Saturdays, and the recording is done on the latter day.

Ekondo Titi Town Market meets Tuesday and Friday mornings, and is recorded Fridays. It serves the large local urban population of traders and government employees. Prices are low-medium. Local women buy up plantains and cocoyams in the Kumba Road markets to re-sell here, and local farmers bring in produce. Occasional traders buy some bags of egusi, garri and seed yams, and Mundemba taxis take back varied supplies.

Mudemba Town I (II being in the Ndian Pamol Estate) was set up a few years ago to provide a regular source of produce to the government employees of the town. It is a tiny market, meeting Wednesdays and Saturdays for a few hours; it is recorded on Saturday. Traders from Ekondo Titi Beach, Bekora and Bole (Meme) sometimes bring pick-ups of food to sell, and canoes sometimes come from other riverside villages with plantains. Local women go out to neighboring villages to buy produce to sell in the market. Prices are the highest in the sample, with the market basket 43% above norm. No data exists before January 1989.

Manyu Division markets

Manyu markets are cut off from major trading by the state of the roads out of the Division. Even Fontem Sub-Division, which neighbors the urban market of Dschang, can only be reached with vehicular traffic during about half the year. Markets are primarily oriented toward local supply. In Fontem, population density is high and farmer-to-farmer food trading active; farmers also trek to the lowlands for palm oil to sell, and carry some food to Dschang, while the highest area has a roadhead market that sells large quantities of temperate crops to Dschang and Yaounde.

In the lowlands, an active market at Mfaka on the Fontem border sells the crops of both zones to lowland traders, and the large villages in the Mamfe Town region have farmers' markets which sell to Mamfe and Eyumojock Town traders.

The town markets are run primarily by traders and serve the urban populations. Village markets elsewhere hold for only a few hours and sell small quantities to local farmers. Most lowland Manyu markets close down or shrink drastically for a few weeks after New Year's celebrations.

Akwaya markets are the smallest, as they are far apart and with no road connections; farmers carry their produce long distances by headload to neighboring markets in North West, Mamfe Central or Nigeria to sell.

The three markets picked for Manyu were chosen for access and presence of a market official. They are Mfaka, Mamfe Town and Afap.

Mfaka is a farmers' market, to which great numbers of truckers come to buy mixed produce to sell in Mamfe, Nguti, and the Nigerian border at Eyumojock. Smaller traders come in taxis from Mamfe Central villages, and in dry season, down from Menji, the capital of Fontem. Palm oil, plantains, cocoyams, maize, kola and pepper are local specialties, while Mamfe traders bring in egusi and garri for local sale. There are also some traders travelling with local produce to Nigeria and Iiko to trade for dried fish. Mfaka is less expensive than Mamfe for cocoyams, Ibo taro, plantains, bananas, white yams, sweet potatoes and egusi, but more expensive for maize, cassava and groundnuts⁴. Mfaka Market meets on a traditional 8-day schedule; in order to keep up with the other markets, the monitor must record some markets sequentially rather than every other week. The market meets late into the day.

Mamfe Town is an urban market run primarily by middlemen who have bought elsewhere. There is a permanent shop section, and some food is always on sale, but the principal day for food sales is Saturday, and that is when the recording is done. Prices were inexpensive in the first year, but average for the province in the second year; Mamfe is the only market that substantially changed ranking on the market-basket criterion. Traders from villages to the south come to buy egusi sometimes. Local traders go to Nigeria for yams, to the villages to the west for garri and egusi, and to Mfaka for plantains and cocoyams.

Afap Market is a farmers' market, the largest of many similar ones west of Mamfe. Pick-ups and taxis come from Mamfe, Eyumojock and the Nigerian border, from Mamfe and Eyumojock for garri, plantains, cocoyams and taro, and from the Nigerian side to bring yams and buy garri. Some traders buy palm kernel oil to carry as far as Douala. In 1988-89, Afap was by far the cheapest market in the sample, its basket costing 67% of the norm; but in 1989-90 it rose to third cheapest, at 91%. Possibly this was due to the enclosure of the market

⁴ In the first year, Mfaka was showing as the most expensive market of Manyu, despite being a source market for Mamfe traders. We talked to the monitor about correct procedures, and although he claimed not to have done differently before, the second year data is quite different, and presumed to be more reliable.

and growing status as a local hub. The market meets Mondays until late in the day.

Chart 2: Characterization of SWP Markets

Market	Type	Size	Freq.	Buyers	Sellers	#pick-ups	Exports	Imports
Muea	farmers' urban + export	L	B	TWF	TF	25/++	mz ya cy tr fr (pi ba)	ym cs temp.vg. pl
Mudeka	fish	M	W	TF*	F(T)	7/++	fish ym cy cs tr (pl)	pl cy cs
Yoke	village	M	W	F(W)	F	8/+	cs pl ym	cy pl ym
Fiango	urban farmers'	L	B(D)	T	F(T)	0/+		pl cy temp.vg.
Konye	village + urban farmers'	M	W	FTW	F	3.5%/0	pl fr cy cs ba	cs eg gn
Ebonji	farmers' export	M	W	WF	F	35/+	cy pl mz ba tr	fish cs eg ym
Mbonge	farmers' export	M	B	WF	F(T)	11/+	cs eg pl pa (ym)	cs cy pl eg
Ek.Titi	urban farmers'	M	B	TF	F	1/+	cs eg -y ym	cy pl tr
Mudemba	urban farmers'	S	B	T	FT	0/+		fish cs ym pl
Mfaka	farmers' export	M	B	W(F)	F	15/+	pl cy pm tr	fish cs eg
Manfe	urban	M	B(D)	T	T(F)	1.5%/+	pl tr cs ym	pl cy cs ym eg
Afap	farmers' export + village	M	W	WFT	F	10/+	cs pl cy tr	ym gn temp.vg.

Notes:

Size: Large (over 200 sellers), Medium, Small (under 50 sellers)

Frequency: 8-day, Weekly, Bi-weekly, Daily

Buyers: Wholesalers, Townsfolk or fishermen, Farmers (* W for fish only)

Sellers: Traders, Farmers

#pick-ups: number buying/selling per day (+ few, ++ 5 or more)

Export/Import: principal ones leaving or coming into market from afar: mz maize; cy cocoyam; tr taro; pl plantain; ba banana; cs cassava (garri); eg egusi; pm palm oil; ym yam; temp.vg. temperate-climate vegetables (irish potatoes, onions, carrots, beans, tomatoes); gn groundnuts

Table 1: Relative Costs of Produce and the Market Basket, by Market, September 1988 to August 1989, South West Province

Market	Maize		Cassava			Cocoyaa/Tarc		Plan- tain	Banana
	green	dry	rdot	garri	macabo	ibo	country		
Muea	1.5	0.7	1.4	1.3	1.5	1.0	1.0	1.1	1.1
Mudeka	0.9	0.9	0.9	1.3	1.3	1.1	1.1	1.3	1.3
Yoke	1.1	0.6	1.0	1.1	0.7	0.9	0.8	0.8	0.9
Fiango	0.8	0.7	0.8	0.9	0.9	1.1	1.0	1.2	0.9
Kcnye	0.8	2.6	0.7	0.9	0.8	1.0	0.7	0.7	0.6
Ebonji	0.7	0.5	0.5	1.2	0.7	0.7	0.7	0.6	0.4
Mbonge	1.0	1.7	1.1	1.3	1.3	1.1	1.1	0.9	1.1
Ekondo Titi	1.0	1.0	1.1	0.9	0.9	1.1	0.9	1.0	1.0
Mundemba	1.0	2.4	1.1	1.0	1.3	1.6	0.9	1.4	1.5
Mfaka	0.9	1.2	2.0	1.0	0.9	1.2	2.3	1.2	1.2
Mafe	0.8	1.2	0.6	0.5	1.0	0.9	0.8	1.0	1.2
Afap	1.0	0.5	-	0.5	0.6	0.6	1.0	0.8	0.7

Market	Yams		Potatoes			Groundnuts		Egusi Seed		Basket total
	white	sweet	water	sweet	irish	shelled	unshel	cracked	uncrack	
Muea	1.0	1.1	-	1.3	1.2	-	0.8	1.2	1.3	1.15
Mudeka	1.1	0.9	1.4	1.1	1.0	1.0	2.0	0.9	1.2	1.17
Yoke	1.2	1.2	1.0	0.7	0.5	1.3	0.8	-	0.9	0.93
Fiango	1.2	1.1	1.2	1.1	1.0	0.9	1.1	0.7	1.1	0.98
Konye	0.8	0.9	-	0.9	-	1.1	1.5	0.8	1.2	0.99
Ebonji	0.8	0.8	0.9	0.5	1.1	0.8	1.2	1.9	1.6	0.87
Mbonge	1.0	1.0	1.2	1.1	-	0.4	0.9	-	0.8	1.05
Ekondo Titi	0.8	0.7	1.1	1.2	1.2	1.2	1.4	0.8	0.7	0.98
Mundemba	1.3	1.4	-	1.6	0.5	1.3	-	1.0	0.9	1.31
Mfaka	1.5	1.5	-	1.2	-	-	0.6	-	0.8	1.16
Mafe	0.6	0.5	0.8	0.8	1.0	-	1.0	-	0.9	0.88
Afap	0.5	0.3	0.5	0.6	-	-	0.8	-	0.7	0.67

Table 2: Relative Costs of Produce and the Market Basket, by Market, September 1989 to August 1990, South West Province

Market	Maize		Cassava			Cocoyam/Taro		Plantain	Banana
	green	dry	root	garri	macabo	ibo	country		
Muea	1.8	0.5	0.9	1.4	1.3	0.8	1.6	1.0	0.9
Mudeka	1.1	0.6	1.3	1.4	1.6	1.3	1.1	1.3	1.6
Yoke	0.9	0.4	1.2	0.9	0.8	0.9	6.9	0.8	1.0
Fiango	0.7	0.8	0.8	0.9	1.0	1.1	1.2	0.9	0.8
Konye	1.0	2.1	0.8	1.0	0.7	0.9	0.7	0.7	0.9
Ebonji	0.7	0.4	0.7	1.0	0.7	0.8	0.8	0.6	0.4
Nbonge	1.0	1.3	0.9	0.7	0.9	1.2	0.8	1.0	1.0
Ekondo Titi	1.0	0.7	0.8	0.8	0.9	0.9	0.9	0.9	1.1
Mundemba	1.0	2.5	1.2	1.4	1.4	1.3	1.1	1.5	1.5
Mfaka	1.6	1.0	1.7	1.1	0.7	0.8	1.7	0.9	0.8
Maafe	0.9	1.4	0.8	0.8	1.2	0.9	0.9	1.1	1.1
Afap	0.9	0.8	-	0.6	0.9	1.2	1.6	1.5	0.9

Market	white	Yams		Potatoes		Groundnuts		Egusi Seed		Basket total
		sweet	water	sweet	irish	shelled	unshel	cracked	unrack	
Muea	0.6	1.3	0.7	1.1	1.3	1.3	0.7	1.0	1.5	1.08
Mudeka	1.3	1.5	1.4	1.2	1.0	1.1	1.4	1.1	1.3	1.28
Yoke	1.0	1.5	1.2	1.1	0.6	0.8	0.8	0.7	1.0	0.88
Fiango	1.0	0.7	0.7	1.0	0.8	0.7	1.1	-	1.0	0.93
Konye	1.0	1.0	-	0.9	-	0.9	-	0.8	1.2	0.95
Ebonji	1.1	0.5	1.2	0.7	0.5	0.7	1.2	0.7	1.1	0.78
Nbonge	0.8	0.8	0.6	1.0	-	1.0	0.9	1.1	1.0	0.95
Ekondo Titi	0.8	0.9	0.8	1.1	1.1	0.9	1.4	1.0	0.9	0.93
Mundemba	1.6	1.3	1.8	1.6	0.8	2.1	-	1.4	1.1	1.50
Mfaka	0.6	0.9	-	0.7	-	0.6	1.3	-	0.6	1.01
Maafe	1.2	0.6	0.9	1.0	0.9	0.8	0.9	1.0	0.9	0.98
Afap	0.8	-	-	0.7	-	0.5	0.5	0.7	0.6	0.91

III. Crops

Prices and their variability by crop are discussed below. It was chosen to present data from all 12 markets, although two markets in Meme and one in Ndian only began reporting 5 months into the study, so that the first and second year data are not totally compatible. Annex B (p.22) contains a comparison of first and second year means by province and division for only the 9 complete markets (Table 11), as well as mean prices and coefficients of variance for each market (Table 12), and correlations among markets for specific crops (Table 13).

Times series charts for each crop by province and division are in Annex C (p.27).

It was hypothesized that crop prices should be increased by higher transport costs (or time required to reach larger markets), fewer outside buyers, smaller size (weight) of purchase and larger size of individual ears, tubers, corms or bunches (unit weight), lower availability of the crop at divisional and provincial levels, and inflation (purchase in a more recent year). Crop prices were thus correlated by multiple regression with variables of total and unit weight, seasonal availability at divisional and provincial levels (very roughly approximated from farmers' generalized reports of harvest times in the farming systems surveys), numbers of truckers present at the market, "distance" (seasonal transport time) to a local urban market and from the metropolis (Douala or Bamenda), and crop year (measured from March to February). These are operationally defined in the Methodology section. Variance (R^2) explained was low; the highest R^2 s were 40% for dry maize, 39% for uncracked groundnuts, and 32% for Ibo taro. Explanatory variables were usually, in order of strength: total weight of product sold, one of the market access variables (truckers or distance) and sometimes the availability variable.

One interesting factor in these regressions was the opposite effect of demand-related variables in different crops. Number of external buyers was significantly related to price in 5 crop forms; in three (green maize, garri and Ibo taro) more buyers brought higher prices, while in two (plantains and white yams) it brought lower ones. Distance from the metropolis was also related to price in 5 forms, lower distance increasing price in garri and water yams, but greater distance, in dry maize, shelled groundnuts and cracked egusi.

Inter-market correlations for green and dry maize, cassava garri, plantains and cocoyams, which are all long-distance trade items, showed little market integration at either provincial or divisional level (Table 13). For the price of any one crop, no market was related at more than $r=.50$ to more than four other markets, and the related markets were usually not related functionally. That is, prices in a secondary market of Fako might be related to those of two Manyu markets, which cannot possibly be connected, and those of secondary markets at opposite extremes of Meme might be related for one crop while they were not related to the central Fiango market. Plantains showed the greatest overall integration, with higher r 's and only 5 out of 66 correlations being negative. A negative correlation indicates that the price is often high in one market in the same week it is low in another. Cassava garri showed the least integration, with no strong correlations (over .5) and 26 negative ones, and was closely followed by cocoyams. Maize had moderately strong correlations, with 17 negative ones for green maize and 24 for dry maize.

Intra-divisional integration was strongest in Manyu, with Mamfe correlating closely with either Afap or Mfaka or both for all crops but green maize, and in directions in accordance with their specialities. In Fako, plantain and dry maize prices were closely integrated, and plantains were also

linked to Fiango prices. Green maize also showed a moderately strong tie between Muea and Fiango, the two chief consumer markets in Fako and Meme. Weak correlations backed up the Mudeka report that garri and cocoyams are brought over from Yoke area to Mudeka for sale. In Ndian there were moderate relationships between Ekondo Titi and Mundemba or Mbonge for most crops, and in Meme, integration was only strong for cocoyams, and for dry maize, between Fiango and Ebonji.

The intercorrelation of mean crop prices among the markets reflects the generality of market cost across crop types and forms, that is, whether markets with high prices for some crops have high prices for most. Out of 153 correlations among crop types and forms across the 12 markets, only 18 were negative at more than $r = -.10$, and only 20 non-related ($-.10 < r < +.10$); the only highly negative r 's were for Irish potatoes with white and water yams. Eighteen correlations were positive at .70 or greater, and 35 between .50 and .70. There is thus a fairly high level of generality in intra-market prices.

There is an interrelated complex of cocoyam, Ibo taro, plantain, banana and sweet potato prices, all with $r > .70$. Prices of the yams are related to each other and to those of most other crops at over .50, and the prices of white and water yams vary almost coterminously (.96). Mean prices of maize, cassava roots, country taro, Irish potatoes, egusi and uncracked groundnuts are related to the price of at most one other crop at .70 and to a maximum of 4 crops at .50. The two forms of maize are totally unrelated, the two forms of cassava at .31, of groundnut at .27, and of egusi at .57 (however, the two-year relationship for egusi stems from first-year data only).

Maize

According to the farming systems surveys, about 44% of maize produced in South West Province is sold, with 40% of the total being sold by Meme farmers, 32% by Manyu ones, 23% by Fako and 5% by Ndian. The Fako percentage is probably understated since plantation workers, who contribute much maize there, were omitted from the surveys. Maize represents about 10% of provincial food sales.

Maize is more often available as dried grain than fresh cobs. Availability of dried grain is least in those markets furthest from the main trade roads (i.e., Manyu markets, Konye and Mundemba). Fresh maize is most available in Ndian, which has access to alluvial dry-season maize, and least available in Manyu markets. As would be expected, dry maize availability peaks at planting times and fresh maize, at harvest.

From 1988/89 to 1989/90, the price of green maize stayed stable, but that of dry grain rose sharply, by an average 25%. The province is a green-maize exporter to Douala and beyond, but during November-December and April-July, most of its dry grain comes from West and Northwest Provinces. The mean price is

lower for fresh maize than grain, but, converted to dry grain equivalent³, fresh maize cobs sold at 2.15 times the dry-grain price in year one and 1.76 times in year two. Provincial price variability was considerably greater for dry maize. However, within-market variability averaged less for dry grain, 40% as vs. 51% for fresh cobs.

Table 3: Mean prices (FCFA/kg), price variability (sd/mean), and availability (% market-days present in market) of maize in 12 South West Province markets, 1988-90, by division and year

Crop \ Year	South West		Fako		Meme		Manyu		Ndian		
	1	2	1	2	1	2	1	2	1	2	
Maize: green cob											
mean price	96	88	108	105	70	65	79	95	88	88	
variability	57%	50%	58%	53%	53%	57%	63%	61%	55%	55%	
availability	46%	37%	50%	38%	43%	33%	34%	27%	56%	51%	
Maize: dry grain											
mean price	120	150	90	72	113	140	127	219	170	203	
variability	70%	85%	40%	31%	102%	81%	56%	56%	53%	79%	
availability	79%	83%	97%	97%	85%	83%	56%	68%	76%	85%	

The usual price of fresh maize is 70-80fr/kg. It is highest in Muea (Littoral) averaging 141fr/kg, but maize buyers in this market are retail shoppers buying for their families. Douala-based traders purchasing wholesale go instead to the farm roads around Muea, and pay roughly 20-33% of the Muea Market price. Other traders from Littoral go direct to Ebonji Market and sometimes Fiango, where the prices average 67-68fr/kg. Elsewhere, markets for green maize are local.

Dried maize prices peak in the areas with little customary maize storage, in Manyu and Ndian (with the exception of Afap, which probably receives from Nigeria). In these markets, less Afap, dry grain averages 211fr/kg, but in the areas with highland immigrant populations (Muea, Fiango and Ebonji) the average

³ A measure created by the Nkolbisson TLU, in which the weight of dry, shelled grain harvested at full maturity is compared with that of market-ready green ears of the same size at green harvest. Dried grain weight is 33% of green-maize weight. Of course, this does not take into account later pest and rain losses suffered by the mature maize.

is only 69fr/kg. Although some Muea farmers have taken advantage of the pre-harvest Bamenda hungry period and dried their first-season maize on cocoa ovens to export to the North West, little dry grain is exported from the province.

Seasonal changes are deceptive unless viewed by Division, especially for green maize, which is available in different places at different times. Green maize so quickly becomes abundant after first availability that the biweekly market recording does not properly catch it. Prices are lowest in the first season harvest (June or July), do not decline from middle range during the second, dry-season harvest (November-December), and are highest on the rare occasions when they are available in mid-season.

The importance of imported grain in the province may explain the erratic shifts in dry grain prices. In general, dry maize prices are among the highest in planting season, but other peaks occur apparently at random. The multiple regression on the cost of dry maize gave an R^2 of .40, with standard coefficients of correlation of -.42 for weight of the item sold, +.30 for distance from the metropolis, and +.13 for crop year, all significant at $p < .001$ and in the expected direction*. That is, higher prices were related to smaller sizes of purchase, longer distances to the metropolis and recent inflation. The regression on the cost of fresh maize only gave an R^2 of .19, with lower provincial availability being most important (standard coefficient of -.33), followed by weight (-.22) and number of external buyers (+.10).

Cassava

Cassava is uniformly available in the province as garri, and usually as raw roots and water fufu. In some markets, especially Manyu, the roots are little sold in the market. The mean conversion ratio from roots to garri varies considerably due to water content of both the roots and the garri, but approximating at 30% of weight (Besong 1989), garri root-equivalent prices were only 103% of root prices in the first year, and 111% second year, despite the substantial work involved in processing. However, this disadvantage was region-specific: Manyu women received only 65% and 80% respectively of root prices for their garri, but Fako women received 120% and 130%, Meme women 165% and 130%, and Ndian ones 110% and 125%. Additionally, urban women specializing in garri processing in Fako make wholesale purchases of cassava farms, at much lower rates (Boya 1989), often even harvesting themselves. Garri prices are cheapest in the communities with the smallest accessible consumer markets relative to farming population. The relative lack of marketed roots in Manyu must be due to consumer insistence rather than greater profitability of the garri there.

In parts of Fako and Meme, farmers often sell the roots to town-based

* Although in fact, crop year, or inflation, only appears as expected for this crop form and white yams.

women who earn a living by processing it and selling to wholesalers. Much of this garri is exported to Douala and beyond. In the farming systems surveys, 52% of cassava produced was reported sold, ranging from 49% in Manyu to 57% in Fako. Eleven percent of provincial food sales was cassava.

From year one to year two, root prices have declined 18%, with the exception of Meme, and garri prices 12%, with the exception of Manyu. Root prices are lowest in Meme and highest in Manyu, while garri prices are highest in Fako and lowest in Manyu.

Table 4: Mean prices (FCFA/kg), price variability (sd/mean), and availability (% market-days present in market) of cassava in 12 South West Province markets, 1988-90, by division and year

Crop \ Year	South West		Fako		Meme		Manyu		Ndian	
	1	2	1	2	1	2	1	2	1	2
Cassava: roots										
mean price	45	35	49	39	29	28	51	44	44	33
variability	53%	50%	47%	31%	39%	33%	78%	43%	68%	72%
availability	88%	90%	100%	97%	100%	100%	53%	67%	99%	97%
Cassava: garri										
mean price	155	137	196	167	159	132	105	113	160	136
variability	27%	28%	16%	24%	22%	19%	44%	40%	54%	46%
availability	99%	100%	99%	100%	100%	100%	97%	100%	99%	100%

Garri prices are relatively stable, especially in the demand-driven markets of Fako and Meme. Only in Mbonge, where weighing procedure was suspect, was there much variability. Root prices are more variable, but much of this variability occurred in the first year. Root prices tend to be higher in dry season and possibly at peak weeding time, whereas garri prices are highest at planting.

Multiple regressions on cassava prices gave low R^2 s, .07 for roots and .22 for garri. In the latter, lower total weight of purchase (standard coefficient of -.31), closer distance to the metropolis (-.24) and higher number of external buyers (+.17), all significant at .001, increased prices. The metropolitan and trader variables thus operated in reverse of expectations.

Cocoyams and taro

Twenty-four percent of all sales in the farming systems surveys were of cocoyams and taro, with the value of cocoyam sales being twice that of both types of taro. Forty percent of cocoyams and 30% of taro produced in South West Province are sold, with 43% and 49% of the total being sold by Fako farmers, 22% of each by Meme ones. 70% of cocoyams and 26% of taro in Manyu and 11% and 3% in Ndian. "Ibo" (short-season) taro is now more common than "country" (long-season).

Cocoyams are almost always available (99% of market observations), whereas ibo taro was available 92% of the time and country taro 71%. Ibo taro is always available in the larger markets. Country taro is usually unavailable in the rural markets of Manyu and in Ebonji, although it is much grown by farmers there; (available) it is not considered saleable.

Prices of all aroids declined over the two years, from 101fr/kg to 95fr for cocoyams, 57fr to 54fr for ibo taro, and 52fr to 43fr for country. Price variability was lower for cocoyams than taro, but usually below 40% for all. Manyu, Meme and Mbonge Markets were most variable.

Table 5: Mean prices (FCFA/kg), price variability (sd/mean), and availability (% market-days present in market) of aroids in 12 South West Province markets, 1989-90, by division and year

Crop \ Year	South West		Fako		Meme		Manyu		Ndian	
	1	2	1	2	1	2	1	2	1	2
Cocoyam (macabo)										
mean price	101	95	119	114	79	77	86	88	118	102
variability	38%	39%	45%	42%	29%	31%	37%	52%	48%	36%
availability	99%	98%	100%	100%	100%	100%	95%	91%	100%	100%
Taro: ibo										
mean price	57	54	57	55	51	51	50	50	68	61
variability	37%	47%	37%	42%	31%	31%	44%	66%	40%	69%
availability	92%	93%	95%	100%	94%	96%	92%	90%	85%	88%
Taro: country										
mean price	52	43	51	47	43	39	63	48	51	39
variability	42%	47%	33%	50%	40%	44%	65%	56%	41%	41%
availability	72%	70%	89%	80%	63%	65%	48%	45%	86%	88%

Seasonal changes were erratic, especially for cocoyams. It was thought that the rapid shifts from one market day to the next might reflect measurement of white cocoyams one day and red the next, but a few monitors were asked to identify color in the final quarter, and this did not cause the price changes. Lows in cocoyam and taro prices generally occurred from October to December,

except in Fako, and highs in June to August, with Ibo taro staying high from February onwards.

The multiple correlation regressions on cocoyam prices (using different subsets of data due to the distribution of missing values) gave a best R^2 of only .17, with significant ($p < .001$) increases in price from lesser distance to the nearest urban market (standard coefficient of -.30) and smaller unit weight (-.23, meaning that cormels are more valued than corms). Ibo taro prices were better explained, with an R^2 of .32; lower total weight (-.59) contributed most to higher price, with greater number of external buyers (+.19) significant at $p < .01$ and fewer units (number of cormels sold, -.13) at $p < .05$. Country taro regressions gave a best R^2 of .18, with lower unit weight (-.33) and distance to the nearest urban market (-.27, at $p < .01$) contributing to price increases.

Plantains and bananas

Over a third of the total crop sales in the province come from plantains (34%), with bananas contributing only 3%. Fifty-nine percent of plantains were reported sold in the surveys, and 46% of bananas, with the most sales in Fako (75% and 38%) and least in Manyu (36% and 24%). Bananas are only an important crop in northern Meme where plantains do not do well. Plantains are uniformly available, and bananas usually so. Bananas, which bring low prices, have become more available in the last year, probably because farmers have increased their marketing to replace cocoa/coffee money.

Table 6: Mean prices (FCFA/kg), price variability (sd/mean), and availability (% market-days present in market) of plantains and bananas in 12 South West Province markets, 1988-90, by division and year

Crop \ Year	South West		Fako		Meme		Manyu		Ndian	
	1	2	1	2	1	2	1	2	1	2
Plantain										
mean price	80	77	86	77	66	57	80	86	87	86
variability	38%	46%	36%	36%	50%	42%	39%	85%	33%	41%
availability	99%	100%	100%	100%	100%	100%	97%	99%	100%	100%
Banana										
mean price	39	37	44	43	24	26	40	34	45	44
variability	41%	44%	39%	44%	43%	58%	43%	44%	38%	36%
availability	91%	96%	89%	90%	98%	100%	88%	96%	90%	99%

Plantains bring slightly twice the price of bananas, per kilo, with the greatest differentials in Meme and Manyu. Both have declined slightly, plantains from 80fr/kg to 77fr and bananas from 39fr/kg to 37fr. Banana prices have only declined substantially in Manyu, where plantain prices have increased, possibly due to the onset of severe black sigatoka disease. Price variability for plantains became very high in Manyu in year two. In general, provincial and within-market variability is under 40% for both crops. Banana prices are particularly variable in Konye, part of the banana area. Plantains and bananas both reach their lowest price in Ebonji, where Loum traders come to buy, and their highest prices in the two markets with fewest neighboring farmers, Mundemba and Mudeka.

Highs are registered in the worst rains, June to August, and also during the final stage of land preparation in late February to March. Men are the primary sellers of plantains, and they work hardest in farming during land preparation. Lows are December to February. Banana prices tend to follow plantains. The best R^2 for plantain prices was a mere .12, contributed by lower bunch weight (standard coefficient of -.18), greater provincial availability (+.19, contrary to hypothesis), inflation (crop year, +.14) and fewer external buyers (-.11, $p < .05$).

Yams

Yams represented 7% of total food sales in the farming systems surveys, with 51% of yams produced being reported sold, 42% in the less market-oriented

Manyu and Ndian, and 56% in Meme and Fako. Yams are exported from the province from Fako, southern Meme and around Ekondo Titi, but also are imported across the Nigerian border with Ndian and Manyu. White (Calabar, Ikom) yams are the most marketable, followed by the non-durable sweet yams. Availability of all yams has increased over the past year, by 50% for white yams (43% to 66% of market days) and water yams (23% to 31%), and less for sweet yams (34% to 39%). Water yams are most grown in Manyu, but all types of yams are most common in Fako markets. Konye, Mfaka and Mundemba Markets did not even sell water yams.

From the first to second year, prices have risen for white yams from 132fr/kg to 153fr, and declined for sweet yams (123fr to 100fr) and water yams (96fr to 85fr). However, the opposite occurred in Fako markets, while white-yam availability rose there to 94%. Mundemba, Mudeka and Mfaka had the highest yam prices, and aside from Afap (which receives much food from Nigeria), Muea had the lowest prices for white and water yams (but high for sweet yams), and Mamfe and Ebonji for sweet yams.

Table 7: Mean prices (FCFA/kg), price variability (sd/mean), and availability (% market-days present in market) of yams in 12 South West Province markets, 1988-90, by division and year

Crop \ Year	South West		Fako		Meme		Manyu		Ndian	
	1	2	1	2	1	2	1	2	1	2
Yam: white										
mean price	132	153	148	141	125	150	123	163	131	156
variability	44%	42%	43%	47%	37%	27%	82%	47%	35%	63%
availability	43%	66%	61%	94%	31%	47%	42%	52%	38%	69%
Yam: sweet										
mean price	123	100	143	148	115	70	121	83	114	97
variability	45%	38%	42%	34%	40%	44%	92%	45%	35%	33%
availability	34%	39%	52%	53%	23%	28%	34%	42%	27%	33%
Yam: water										
mean price	96	85	103	105	103	94	73	73	106	66
variability	36%	40%	42%	55%	19%	45%	68%	26%	47%	45%
availability	23%	31%	37%	42%	11%	14%	17%	31%	29%	35%

Price variability was great in Mamfe, Mfaka and Mundemba for white yams, Fiango and Mfaka for sweet yams, and Mamfe, Yoke and Mbonge for water yams. The rainy-season harvest of white Bonakanda yams in Fako does not result in lower prices at that time, July-August being there and elsewhere a time of peak white yam prices. Sweet yams and often water yams are unavailable in the high

rains of July-August. Prices rise and fall sharply and constantly in 2 to 3 month cycles, with some tendency to lows at harvest.

Multiple regressions on the three types of yams gave R^2 s of .12-.13 for white and water yams, and no significant R^2 at all for sweet yams. Lower total weight of purchase contributed to higher white and water yam prices, fewer external buyers and inflation to higher white yam ones, and closer distance to the metropolis to higher water yam ones.

Potatoes

Potatoes make up an insignificant part of South West production and marketing, except in the highest part of Fontem Sub-Division for Irish potatoes and in a minor way, in Bangem Sub-Division. Neither of these is near one of the surveyed markets. Irish potatoes in the province come almost exclusively from the North West, and usually the remnants of the crop, that cannot be sold in Bamenda, Yaounde and Douala, are brought down. However, availability and quality has been growing, the former from 29% of market-days in 1988-89 to 40% in 1989-90. Sweet potatoes, little valued in the province, have also been coming more onto the market, availability increasing from 46% to 57%. Sweet potatoes are exported to Douala from markets around Muea. Potatoes of both types are more readily available in Fako.

Irish potato prices are among the highest for tubers, competing with white yams: 143fr/kg in year one and 133fr in year two. They are also relatively stable both in space and time. Prices are highest in March to May, before the first new harvests in the North West, and lowest from July to October.

Sweet potato prices are higher only than those of cassava roots (which are perishable and have a higher water content) and the taros, at 72fr/kg and 65fr in years one and two respectively. Prices are highest in the Fako markets attracting West-Province buyers, but low in Ebonji, where Littoral buyers come for plantains and cocoyams. In Fako and Meme, the prices are highest in April to July, and low in dry season.

Table 8: Mean prices (FCFA/kg), price variability (sd/mean), and availability (% market-days present in market) of potatoes in 12 South West Province markets, 1988-90, by division and year

Crop \ Year	South West		Fako		Meme		Manyu		Ndian	
	1	2	1	2	1	2	1	2	1	2
Sweet potato										
mean price	72	65	79	75	52	55	68	50	87	70
variability	34%	35%	56%	41%	46%	34%	43%	28%	18%	38%
availability	46%	57%	80%	88%	40%	51%	26%	36%	37%	54%
Irish potato										
mean price	143	133	144	149	144	109	135	128	144	146
variability	37%	29%	41%	37%	47%	29%	25%	30%	46%	23%
availability	29%	40%	42%	53%	22%	35%	33%	31%	19%	41%

Groundnuts

Groundnuts only make up 3% of South West food crop sales, but 55% of that grown is reported sold by farmers, from 45% in Manyu to 73% in Ndian. Cracked (shelled) groundnuts, most dry-roasted, are readily available in most markets, although they were not recorded until June 1990 unless unshelled ones were not available. Unshelled ones are available but scarce except at harvest time. Some Douala traders come to farmers around Yoke to buy wholesale, but not through the markets.

Prices of shelled and unshelled groundnuts cannot be compared due to the varying moisture content. Prices of shelled groundnuts appear to have risen, from 377fr/kg to 387fr, but only because of a major rise in Mbonge Market and an increase in availability in Mundemba, where they are 2-3 times normal prices. All prices elsewhere have fallen. Fako prices, outside Mundemba, are highest, and Manyu lowest. Prices of unshelled groundnuts have also fallen, from 202fr to 167fr, except in Manyu, where they are cheapest. Meme prices are highest for the unshelled form. Price variability for unshelled groundnuts is high except in Meme, but declining. Prices are generally lower after harvest for the unshelled form.

Unshelled prices were significantly increased by lower total weight sold (standard coefficient of -.53), deflation (crop year, -.17, $p < .01$) and closeness to the nearest urban market (-.15, $p < .01$); the R^2 was .39. Shelled prices, with an R^2 of only .15, rose with greater distance from metropolis (+.30) but lower

distance to nearest urban market (-.28), as well as lower weight sold (-.15, p<.05) and inflation (crop year, +.13, p<.05).

Table 9: Mean prices (FCFA/kg), price variability (sd/mean), and availability (market-days present in market) of groundnuts in 12 South West Province markets, 1988-90, by division and year

Crop \ Year	South West		Fako		Meap		Manyu		Ndian	
	1	2	1	2	1	2	1	2	1	2
Groundnuts, shelled										
mean price	377	387	497	395	345	276	349	244	378	641
variability	31%	34%	30%	49%	24%	27%	34%	30%	43%	53%
Groundnuts, unshelled										
mean price	202	167	208	154	237	184	159	163	193	166
variability	43%	38%	59%	53%	28%	24%	50%	43%	50%	49%
Availability										
either										
variability	73%	68%	97%	83%	99%	77%	91%	87%	43%	62%

Egusi melon seed

Two-thirds of the egusi grown is reported sold by farmers, only 80% in name but 80% in Ndian. Egusi seed contributes 4% of the food crop sales. The seed is usually available uncracked, and often cracked as well. South West egusi (*Citrullus lanatus*) has an extremely thin shell, and the cracking process is make-work when women or children are cracking at home, very lengthy but not tiring. It reduces the weight by about 20%, and cracked seed thus enjoyed a premium of 2.1 times the uncracked price in year one and 1.8 times in year two.

Egusi is the most expensive food for weight sold in the provinces 3037r and 3067r/kg for the uncracked form in years one and two, and 995fr and 807fr for the cracked form. However, yields of seed are very low. It is most expensive in Fako (and in Ebonji in the first year), and cheapest in Manyu. Price variability is not high, except for Ebonji, though higher for the unshelled form. Egusi is almost never grown in the second season, but prices, while lower at the July-August harvest, also decline at year's end, whether in response to Nigerian imports or sales to obtain Christmas money cannot now be said.

⁷ Until July 1990, monitors would register either shelled or unshelled groundnuts and egusi, not both. The most common one was taken. The availability measure was confounded by this.

The R²s for regressions on cracked and uncracked egusi prices were at or under .10.

Table 10: Mean prices (FCFA/kg), price variability (sd/mean), and availability (% market-days present in market) of egusi melon seed in 12 South West Province markets, 1988-90, by division and year

Crop \ Year	South West		Fako		Meme		Manyu		Ndian	
	1	2	1	2	1	2	1	2	1	2
Egusi seed* : shelled										
mean price	995	807	948	831	1222	629	na	807	814	962
variability	33%	22%	25%	18%	65%	20%	na	24%	28%	27%
: unshelled										
mean price	383	356	423	428	492	377	306	259	311	354
variability	44%	36%	48%	29%	76%	37%	31%	36%	40%	46%
: either										
availability	90%	91%	97%	97%	100%	94%	76%	78%	87%	96%

IV. ANNEXES

A: Biweekly Market Price Record
 Testing & Liaison Unit
 Market: _____

CRA/IRA/MESIRES-Ekona
 Date: __/__/__

Staple	Unit of Sale	Weight of Unit (kg)	Price of Unit (F CFA)
Maize - green cobs			
- dry cobs			
- dry grain			
Cassava - tubers			
- garri			
Cocoyam - macabo			
- "Ibo"			
- "country"			
Plantains (green)			
Bananas (green)			
Yams - white			
- sweet			
- water			
Potatoes - sweet			
- irish			
Groundnuts in shell			
- cracked			
Egusi seed in shell			
- cracked			

This form is not for purposes of price control. It is to learn price trends so as to help improve the markets for food crops.

Annex B: Additional Tables

Table 11: Mean prices in 9 continuing South West Province markets, by crop and division, 1988-90^a

Crop	Mean Price (FCFA/kg)									
	South West		Fako		Meme		Manyu		Ndian	
	1	2	1	2	1	2	1	2	1	2
Maize green cob	88	88	103	113	66	60	80	101	87	87
Maize dry grain	120	150	99	73	55	62	145	234	160	151
Cassava garri	156	159	194	169	190	138	106	112	164	105
Cocoyam	101	95	117	116	67	69	85	88	113	88
Taro - big	56	54	57	56	41	42	50	51	63	57
Taro - country	52	43	51	46	38	36	70	61	52	36
Bontaba	80	76	85	77	52	45	81	87	77	71
Banana	39	36	44	43	17	16	40	34	40	39
Yam - white	134	151	148	146	105	159	118	132	123	126
Sweet potato	73	67	76	75	39	44	64	55	85	70
Biru, unshelled	198	164	239	164	241	174	151	148	225	187
Egusi unshelled	381	354	441	445	602	382	300	249	281	334
Bucket	146	140	165	152	161	130	121	122	140	130

Table 12: Mean prices (FCFA/kg) and price variability (sd/mean) by market and crop form, 1988-90

Market	Maize		Cassava		Cocoyam	Taro	
	Green	Dry	Roots	Garri		The	Country
Musek: mean	141	79	46	202	137	53	55
:variab.	.56	.35	.65	.14	.30	.43	.47
Mudelak: mean	89	100	43	195	144	69	52
:variab.	.45	.36	.23	.10	.33	.29	.35
Yokek: mean	89	70	44	146	75	51	41
:variab.	.40	.37	.25	.25	.39	.46	.35
Fiango: mean	67	105	28	125	95	63	51
:variab.	.57	.34	.37	.14	.28	.17	.35
Ebonji: mean	68	58	25	163	69	41	37
:variab.	.70	.21	.34	.25	.24	.33	.50
Konyek: mean	78	317	30	138	74	51	34
:variab.	.38	.39	.24	.14	.25	.26	.32

^a Excluding the three markets with only 19 months' data, and the crop forms usually unavailable in some markets.

Table 12, continued:

Market	Plantain	Banana	Yam			Potato	
			White	Sweet	Water	Irish	Sweet
Nbongbe: mean	85	199	41	143	111	63	46
:variab.	.65	.47	.74	.72	.55	.76	.47
Ekondo Titi: mean	89	112	37	122	91	56	44
:variab.	.32	.18	.70	.28	.28	.42	.48
Mundemba: mean	90	355	43	179	131	76	45
:variab.	.29	.58	.74	.24	.29	.34	.30
Mamfe: mean	75	173	29	91	113	48	39
:variab.	.40	.43	.30	.23	.49	.48	.54
Mfaka: mean	98	216	69	151	79	54	98
:variab.	.56	.62	.45	.32	.28	.41	.32
Afape: mean	82	85	na	822	71	46	57
:variab.	.87	.51	na	.23	.44	.75	.54
Musa: mean	82	41	108	142	61	168	83
:variab.	.37	.50	.42	.40	.06	.28	.57
Mudeka: mean	101	54	180	135	123	129	81
:variab.	.22	.27	.40	.32	.27	.40	.36
Yake: mean	65	37	158	158	97	77	63
:variab.	.41	.40	.36	.39	.59	.23	.32
Fiangou: mean	82	33	149	101	94	121	71
:variab.	.37	.31	.28	.62	.32	.38	.25
Ebonji: mean	50	17	142	70	99	104	41
:variab.	.39	.39	.34	.40	.38	.54	.40
Konye: mean	55	28	130	109	na	na	63
:variab.	.41	.58	.26	.30	na	na	.26
Mbongbe: mean	75	41	129	104	87	na	74
:variab.	.36	.38	.31	.39	.67	na	.36
Ekondo Titi: mean	75	39	121	96	78	158	79
:variab.	.29	.26	.31	.29	.41	.27	.29
Mundemba: mean	116	56	232	145	156	102	94
:variab.	.26	.34	.62	.21	na	.28	.19
Mamfe: mean	85	44	145	66	75	130	64
:variab.	.49	.45	.59	.35	.52	.28	.33
Mfaka: mean	83	39	187	138	na	na	67
:variab.	.33	.33	.69	.73	na	na	.40
Afape: mean	84	30	107	38	48	na	44
:variab.	.96	.46	.43	.09	.28	na	.32

Table 12, continued:

Market	Groundnuts		Egusi Seed	
	Cracked	Uncracked	Cracked	Uncracked
Iwee: mean	403	151	944	539
:variab.	.08	.38	.24	.41
Mudeka: mean	389	299	879	466
:variab.	.13	.50	.16	.37
Yoke: mean	354	159	577	347
:variab.	.66	.45	.11	.26
Fiango: mean	306	191	(667)	368
:variab.	.18	.25	na	.22
Ebonji: mean	286	257	999	516
:variab.	.28	.54	.77	.85
Konye: mean	353	304	702	436
:variab.	.18	.09	.25	.22
Mbonge: mean	288	154	945	323
:variab.	.43	.32	.45	.53
Ekondo Titi: mean	355	248	802	287
:variab.	.10	.47	.20	.24
Mudemba: mean	72	na	1086	375
:variab.	.44	na	.17	.17
Matie: mean	310	164	891	317
:variab.	.33	.45	.16	.36
Mfaka: mean	228	155	na	263
:variab.	.21	.52	na	.31
Afap: mean	181	122	610	245
:variab.	.18	.46	.37	.24

Table 13: Pearson Correlation Matrices of Crop Prices between Markets:
Maize, Cassava Garri, Plantains and Cocoyams

note: \ indicates the relationships among the markets within one division,
/ \ which should, theoretically, be more integrated than with the rest.

<u>Green maize</u>		MUEA	MUDEKA	YOKE	FIANGO	EBONJI
MUEA		1.000				
MUDEKA		0.242 \	1.000			
YOKE		0.059 / \	-0.322	1.000		
FIANGO		0.420	0.449	0.551	1.000	
EBONJI		0.070	0.406	-0.107	0.014 \	1.000
KONYE		0.487	0.643	-0.682	0.093 / \	0.314
MBONGE		-0.110	0.601	0.207	0.090	0.337
EK.TITI		0.366	0.787	0.113	0.585	0.751
MUNDEMBE		0.218	0.367	-0.319	-0.375	0.251
MFAKA		0.475	0.620	-0.237	-0.047	0.671
MAMFE		0.527	0.335	0.030	0.202	0.415
AFAP		0.547	0.456	-0.462	0.620	-0.126
		KONYE	MBONGE	EK.TITI	MUNDEMBE	MFAKA
KONYE		1.000				
MBONGE		-0.234	1.000			
EK.TITI		0.115	0.341	1.000		
MUNDEMBE		0.604	0.185 \	-0.269	1.000	
MFAKA		-0.232	0.442 / \	0.181	-0.368	1.000
MAMFE		-0.001	0.253	0.766	-0.343	0.146
AFAP		0.809	0.014	0.580	0.618	-0.088
		MAMFE	AFAP			
MAMFE		\ 1.000				
AFAP		/ \ 0.252	1.000			

<u>Dry maize</u>		MUEA	MUDEKA	YOKE	FIANGO	EBONJI
MUEA		1.000				
MUDEKA		0.449 \	1.000			
YOKE		0.399 / \	0.336	1.000		
FIANGO		0.162	0.001	0.126	1.000	
EBONJI		0.109	-0.053	0.224	0.592 \	1.000
KONYE		-0.430	-0.417	-0.467	-0.332 / \	-0.257
MBONGE		-0.155	0.216	0.068	-0.027	-0.206
EK.TITI		0.244	0.361	0.404	-0.115	-0.049
MUNDEMBE		0.005	0.273	0.437	0.743	0.434
MFAKA		0.196	0.278	0.173	0.724	0.086
MAMFE		0.112	0.143	0.402	0.574	0.385
AFAP		-0.369	-0.259	-0.418	0.302	-0.139

Dry maize: continue

	KONYE	MBONGE	EK.TITI	MUNDEMBBA	MFAKA
KONYE	1.000				
MBONGE	-0.008	1.000			
EK.TITI	-0.347	0.219	1.000		
MUNDEMBBA	-0.246	0.457	-0.122	1.000	
MFAKA	-0.189	0.296	0.090	0.644	1.000
MAMFE	-0.480	-0.059	-0.127	0.270	0.399
AFAP	0.136	0.000	-0.106	0.868	0.707
	MAMFE	AFAP			
MAMFE	\ 1.000				
AFAP	/ \ 0.025	1.000			

Cassava garri

	MUEA	MUDEKA	YOKE	FIANGO	EBONJI
MUEA	1.000				
MUDEKA	-0.233	\ 1.000			
YOKE	0.034	/ \ 0.259	1.000		
FIANGO	0.017	0.177	0.334	1.000	
EBONJI	0.158	0.353	0.431	0.299	\ 1.000
KONYE	0.071	-0.229	0.002	0.251	/ \ 0.051
MBONGE	0.060	0.110	0.442	0.100	0.337
EK.TITI	-0.298	0.265	0.147	-0.193	0.162
MUNDEMBBA	-0.176	-0.253	-0.485	-0.422	-0.461
MFAKA	0.069	-0.088	-0.008	0.052	0.154
MAMFE	0.068	-0.090	-0.385	0.225	-0.343
AFAP	0.004	0.294	-0.163	0.266	-0.079
	KONYE	MBONGE	EK.TITI	MUNDEMBBA	MFAKA
KONYE	1.000				
MBONGE	0.103	1.000			
EK.TITI	0.011	0.199	\ 1.000		
MUNDEMBBA	-0.338	-0.249	/ \ -0.120	1.000	
MFAKA	0.144	-0.016	0.124	-0.284	1.000
MAMFE	0.022	-0.088	-0.221	0.228	-0.320
AFAP	0.205	0.143	-0.101	-0.178	0.100
	MAMFE	AFAP			
MAMFE	\ 1.000				
AFAP	/ \ 0.182	1.000			

Table 13, continued

Plantains

	MUEA	MUDEKA	YOKE	FIANGO	EBONJI
MUEA	1.000				
MUDEKA	0.426 \	1.000			
YOKE	0.533 / \	0.423	1.000		
FIANGO	0.566	0.417	0.344	1.000	
EBONJI	0.395	0.406	0.387	0.299 \	1.000
KONYE	0.264	0.246	0.176	0.171 / \	0.484
MBONGE	0.425	0.172	0.170	0.401	0.327
EK.TITI	0.526	0.449	0.381	0.553	0.520
MUNDEMBBA	0.175	0.257	0.010	-0.003	0.248
MFAKA	0.355	0.464	0.277	0.452	0.261
MAMFE	0.177	0.536	0.227	0.122	0.454
AFAP	-0.134	0.418	0.121	0.003	-0.104
	KONYE	MBONGE	EK.TITI	MUNDEMBBA	MFAKA
KONYE	1.000				
MBONGE	0.498	1.000			
EK.TITI	0.444	0.524 \	1.000		
MUNDEMBBA	0.058	0.114 / \	0.217	1.000	
MFAKA	0.250	0.335	0.480	0.024	1.000
MAMFE	0.359	0.285	0.367	0.319	0.444
AFAP	0.178	-0.042	0.137	-0.136	0.124
	MAMFE	AFAP			
MAMFE	\ 1.000				
AFAP	/ \ 0.384	1.000			

Cocoyams

	MUEA	MUDEKA	YOKE	FIANGO	EBONJI
MUEA	1.000				
MUDEKA	-0.087 \	1.000			
YOKE	-0.052 / \	0.315	1.000		
FIANGO	-0.083	0.121	0.349	1.000	
EBONJI	-0.116	0.152	0.345	0.407 \	1.000
KONYE	0.264	-0.244	0.148	0.343 / \	0.491
MBONGE	0.283	0.009	-0.030	0.018	-0.075
EK.TITI	0.223	0.285	0.216	0.394	0.274
MUNDEMBBA	0.063	0.351	0.244	0.299	0.385
MFAKA	0.171	-0.309	0.267	0.208	0.157
MAMFE	0.041	-0.027	0.226	0.354	0.376
AFAP	-0.270	0.154	0.254	0.488	-0.138

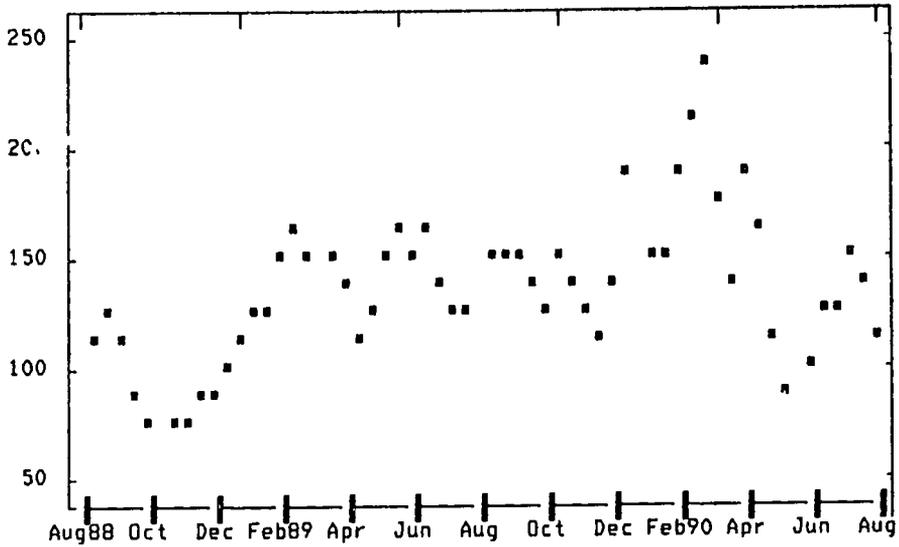
Table 13, continued

<u>Cocoyams</u>	KONYE	MBONGE	EK.TITI	MUNDEMBA	MFAKA
KONYE	1.000				
MBONGE	-0.007 \	1.000			
EK.TITI	0.594 / \	0.029	1.000		
MUNDEMBA	0.443	-0.123	0.695	1.000	
MFAKA	0.200	0.257	0.112	0.009	1.000
MAMFE	0.355	0.146	0.399	0.155	0.331
AFAP	-0.066	-0.158	0.121	0.079	-0.213
	MAMFE	AFAP			
MAMFE	\ 1.000				
AFAP	/ \ 0.216	1.000			

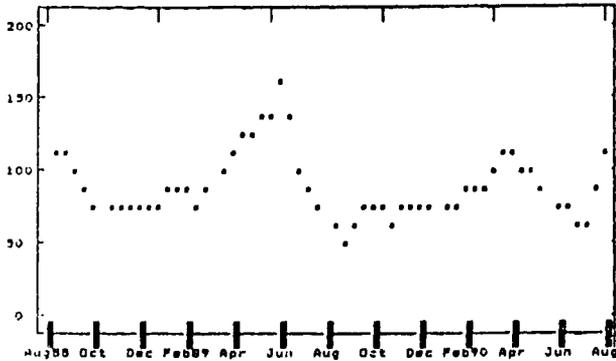
Annex C: Times Series Charts by Crop

MAIZE: DRIED GRAIN

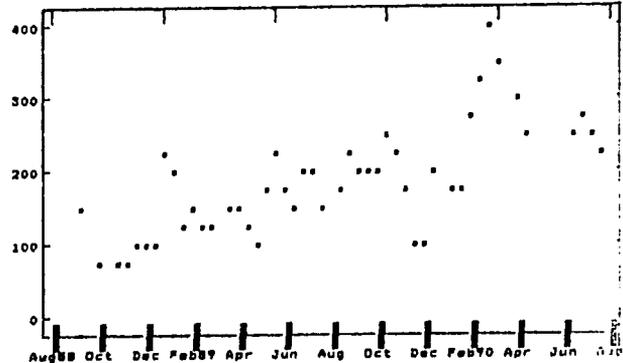
South West: dry maize (grain) average price per kilo



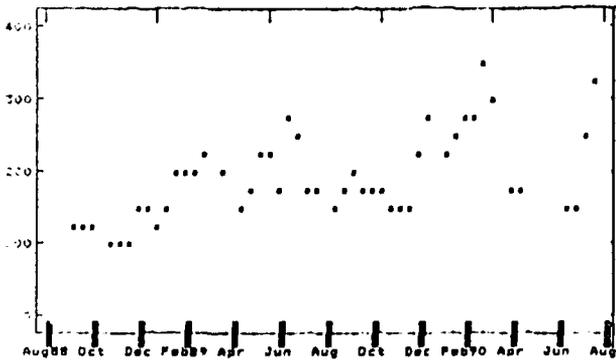
Fako: dry maize average price per kilo



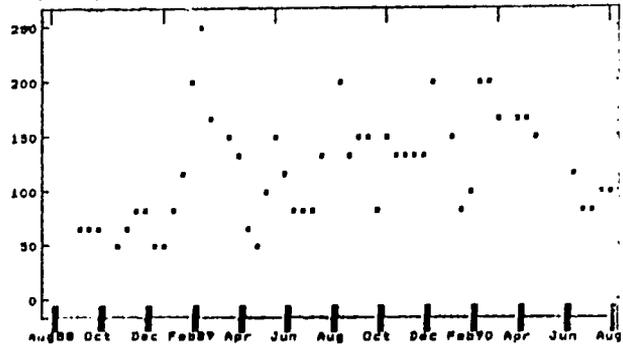
Meme: dry maize average price per kilo



Manyu: dry maize average price per kilo

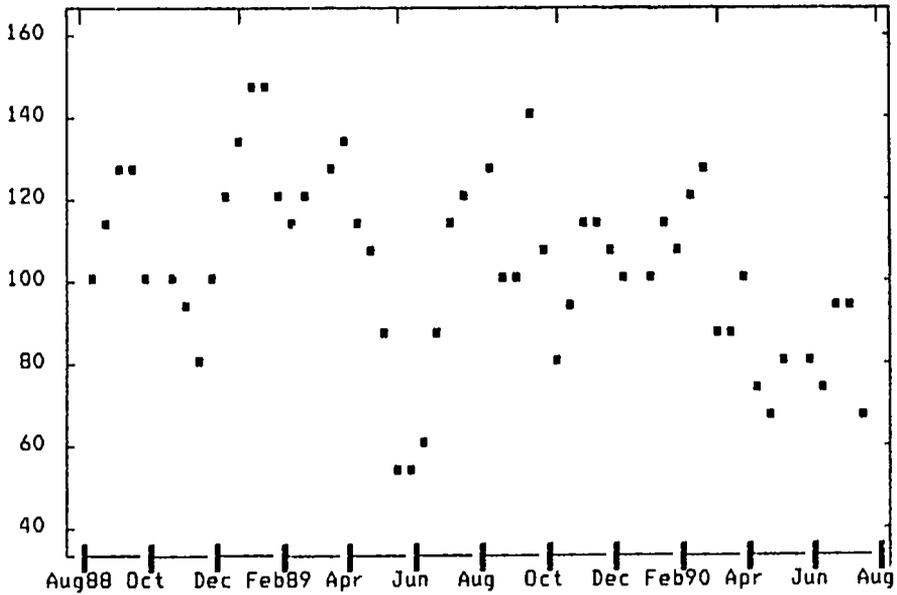


Ndian: dry maize average price per kilo

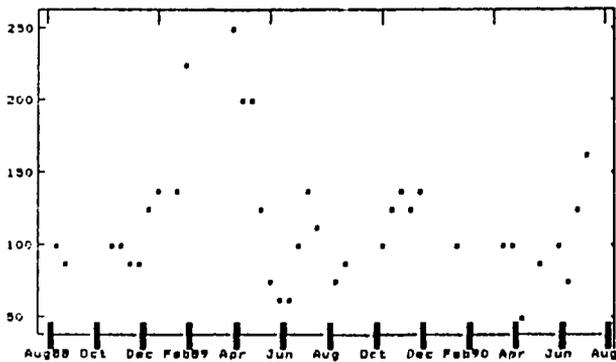


MAIZE: FRESH COBS

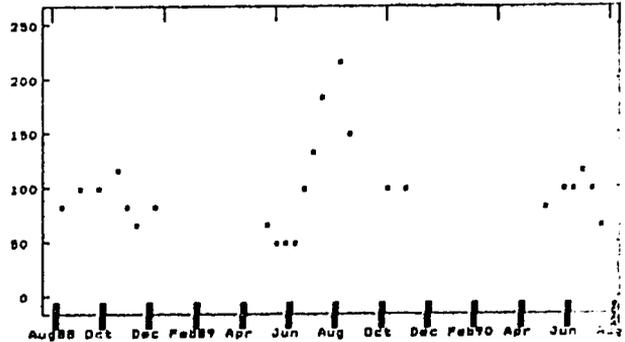
South West: fresh maize average price per kilo



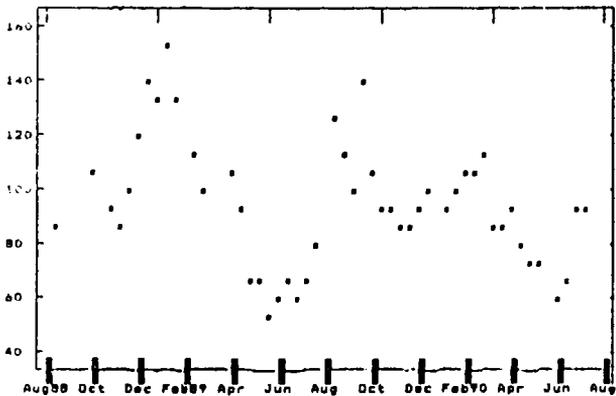
Fako: fresh maize average price per kilo



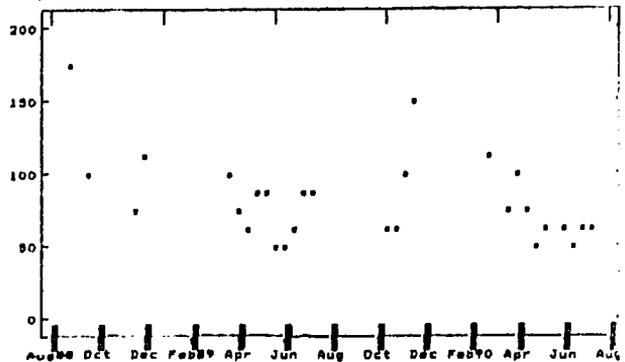
Meme: fresh maize average price per kilo



Manyu: fresh maize average price per kilo

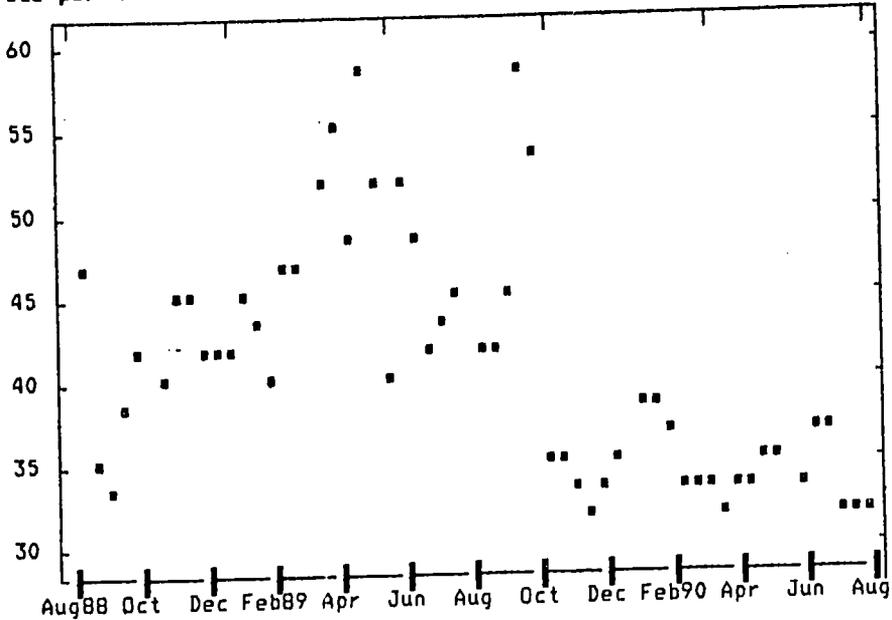


Ndian: fresh maize average price per kilo

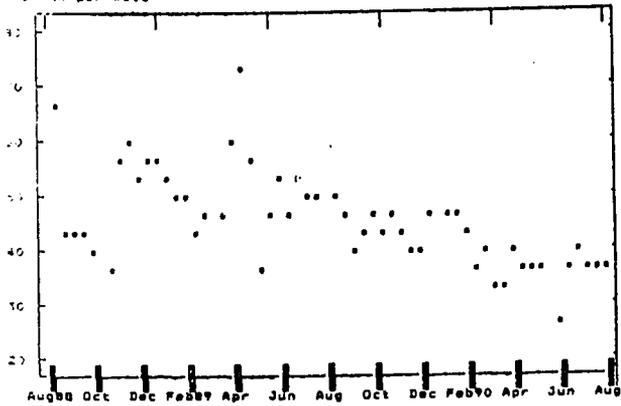


CASSAVA ROOTS

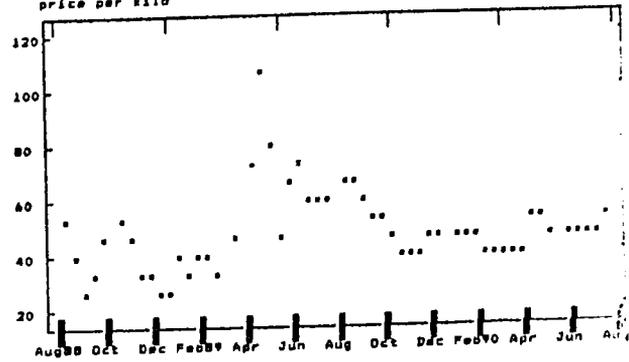
South West: cassava root average price per kilo



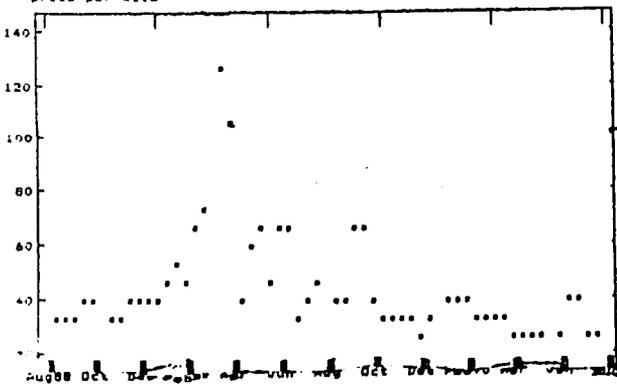
Wakobi: cassava root average price per kilo



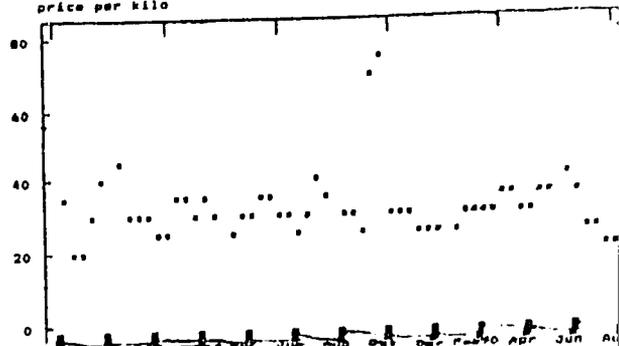
Meme: cassava root average price per kilo



Manyu: cassava root average price per kilo

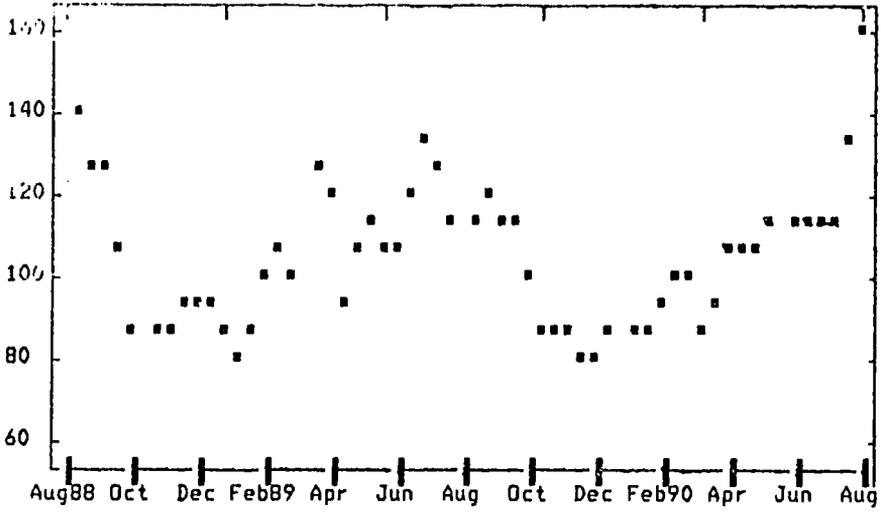


Ndian: cassava root average price per kilo

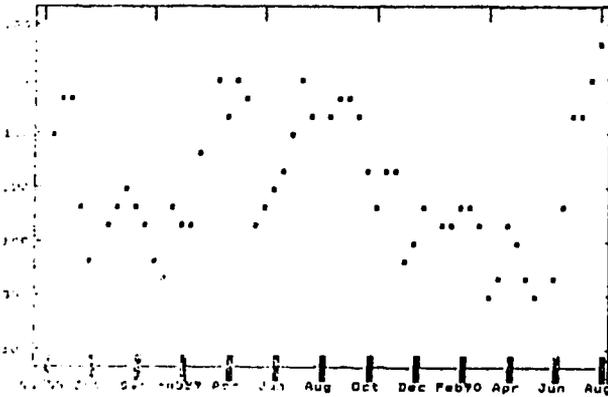


COCOYAMS (MACABO)

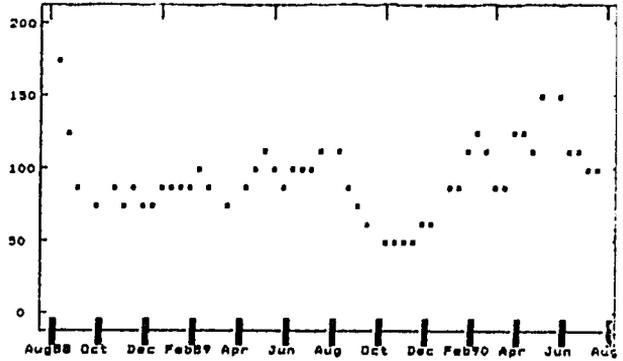
South West: cocoyam average
price per kilo



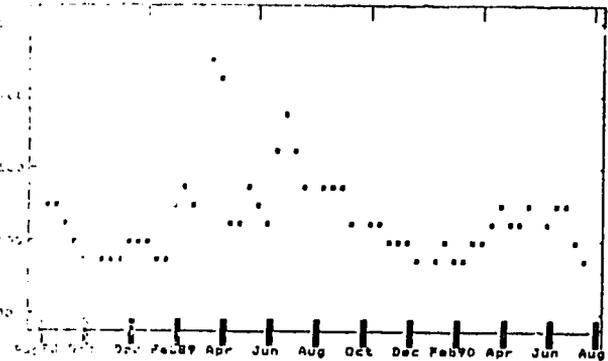
Fako: cocoyam average
price per kilo



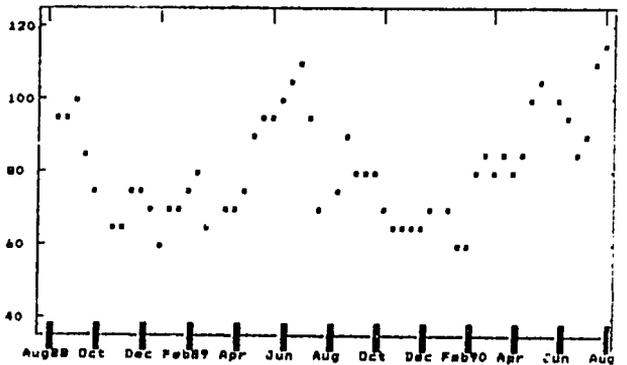
Meme: cocoyam average
price per kilo



Pho: cocoyam average
price per kilo

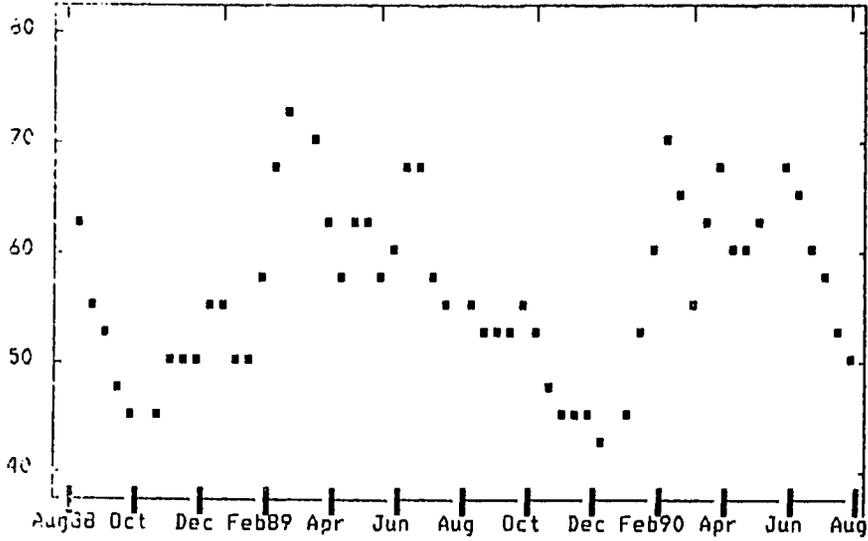


Ndian: cocoyam average
price per kilo

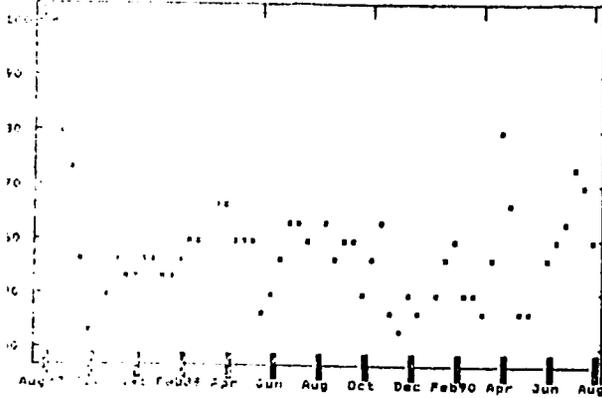


TARO (IBO COCO)

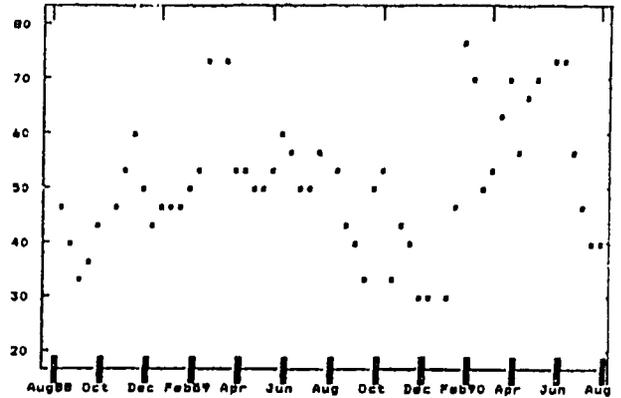
Saudi Arabia: taro (Ibo) average
price per kilo



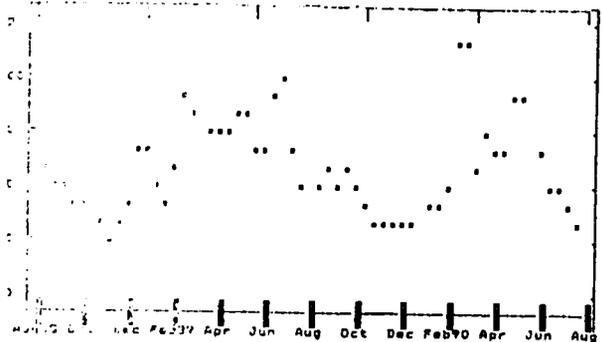
Falkland Islands: taro (Ibo) average
price per kilo



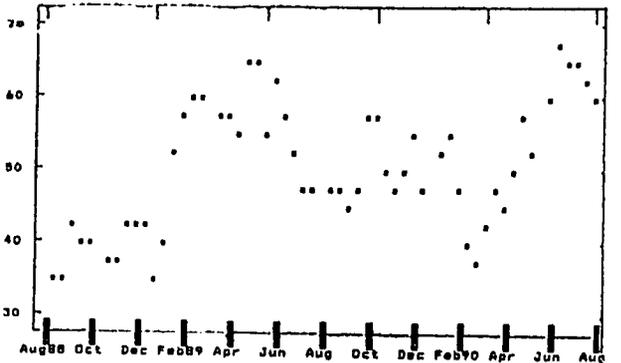
Mexico: taro (Ibo) average
price per kilo



Fiji: taro (Ibo) average
price per kilo

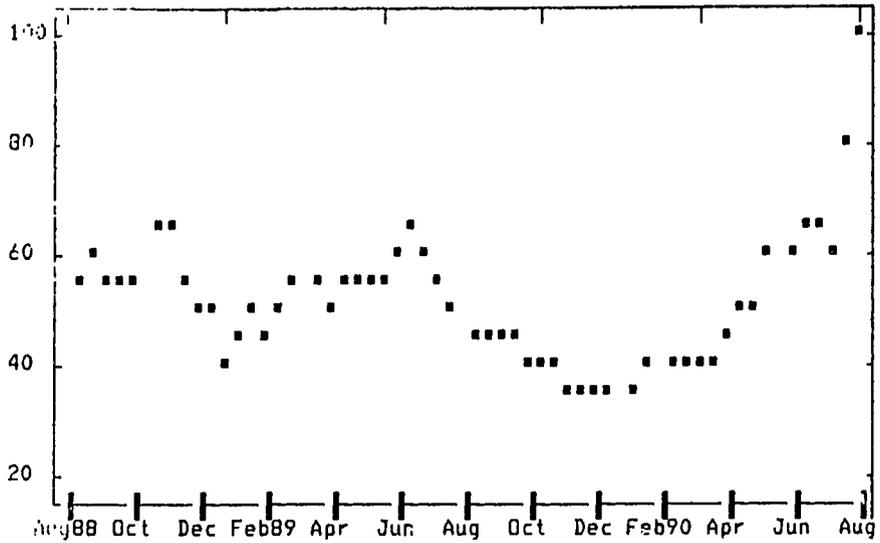


Ndian: taro (Ibo) average
price per kilo

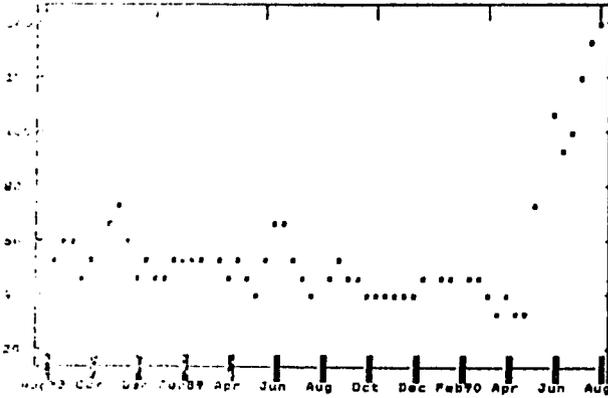


TARO (COUNTRY COCO)

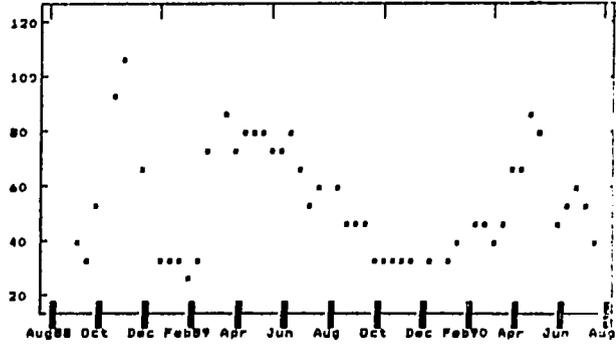
South West: taro (country) average
price per kilo



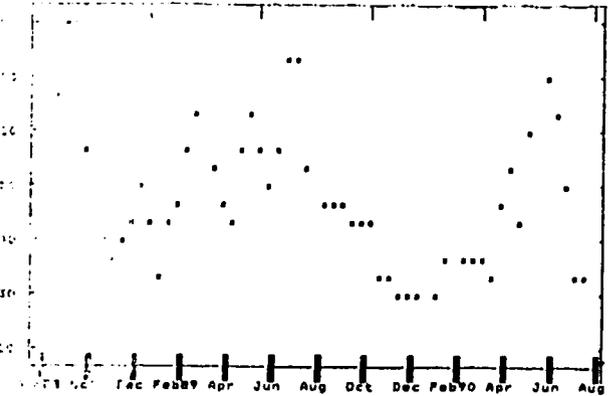
East: taro (country) average
price per kilo



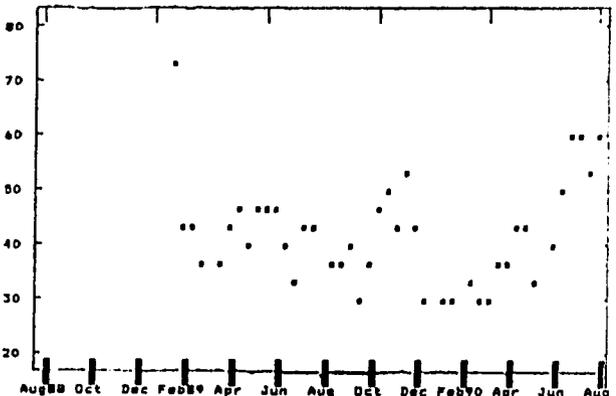
Meme: taro (country) average
price per kilo



North West: taro (country) average
price per kilo

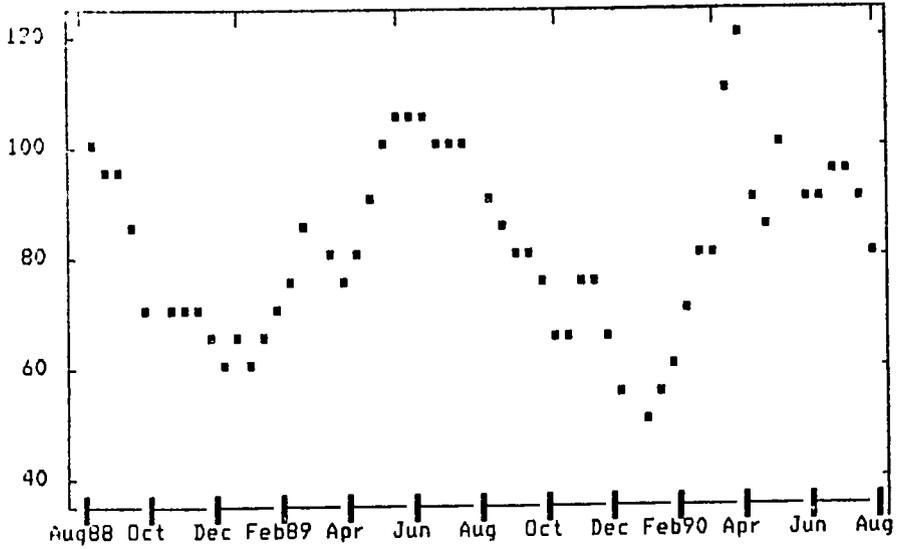


Ndian: taro (country) average
price per kilo

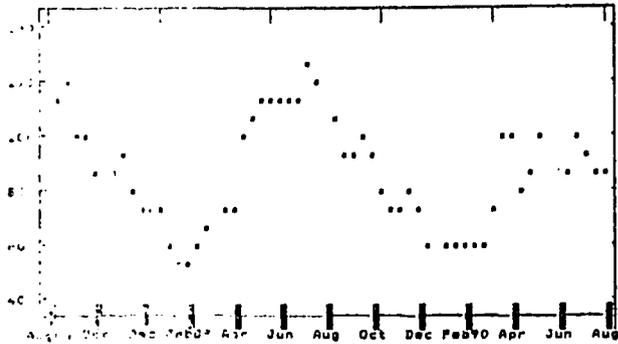


PLANTAINS

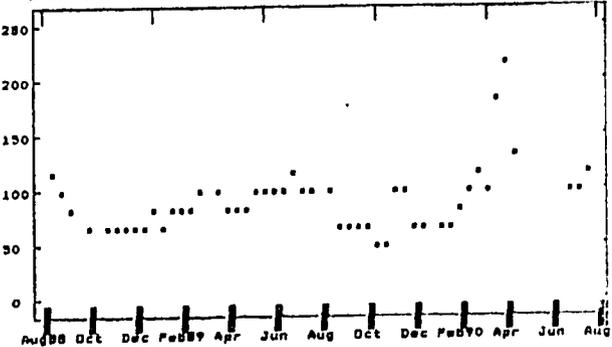
South West: plantain average
price per kilo



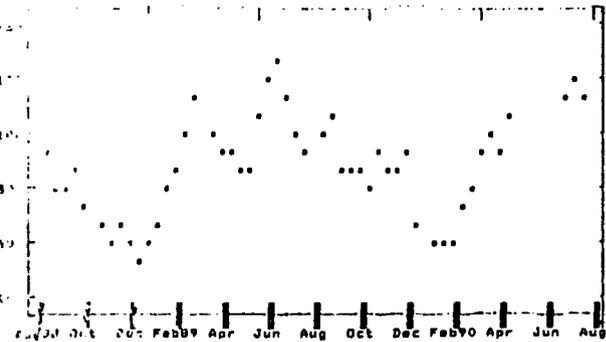
Fako: plantain average
price per kilo



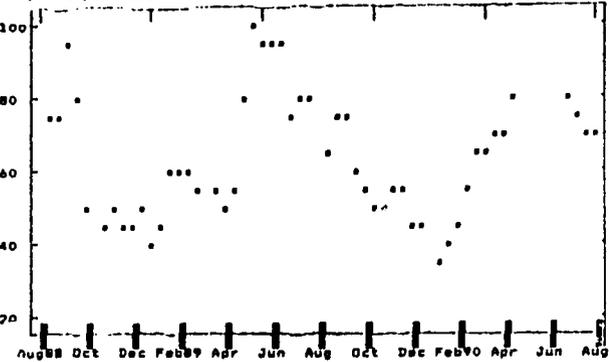
Meme: plantain average
price per kilo



Munyira: plantain average
price per kilo

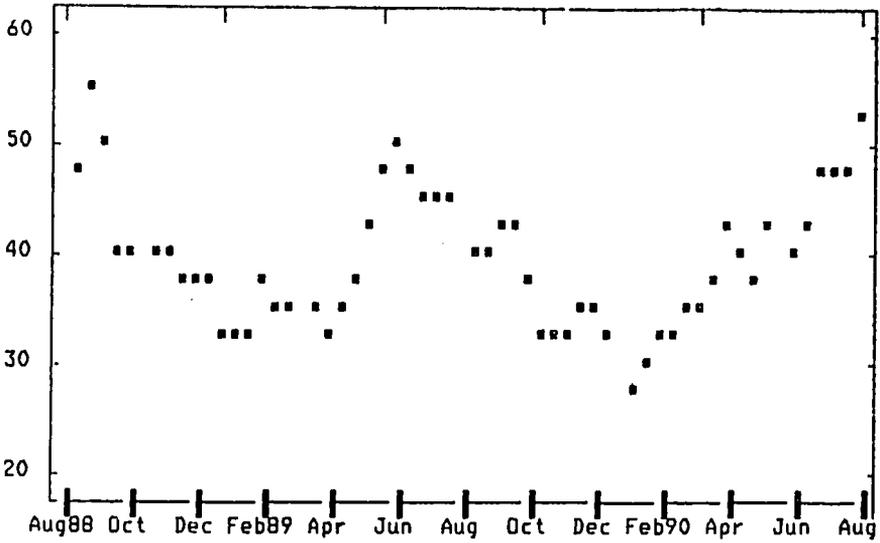


Ndian: plantain average
price per kilo

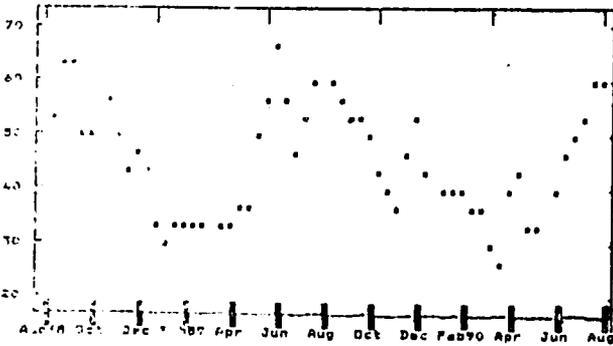


BANANAS

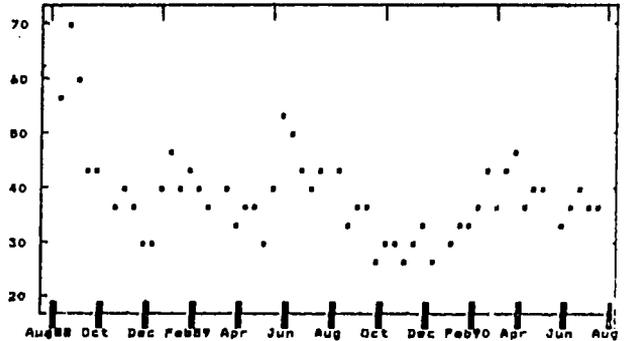
South West: banana average price per kilo



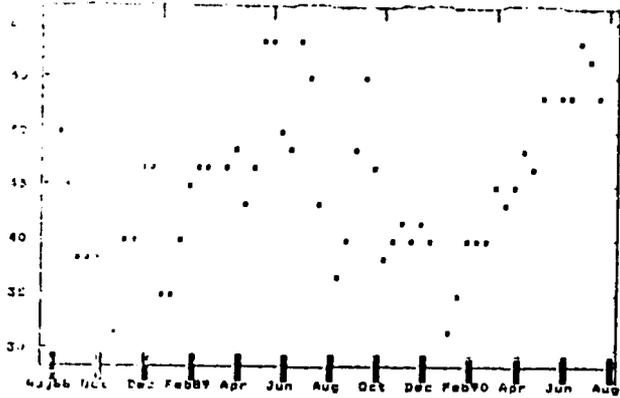
Fishe: banana average price per kilo



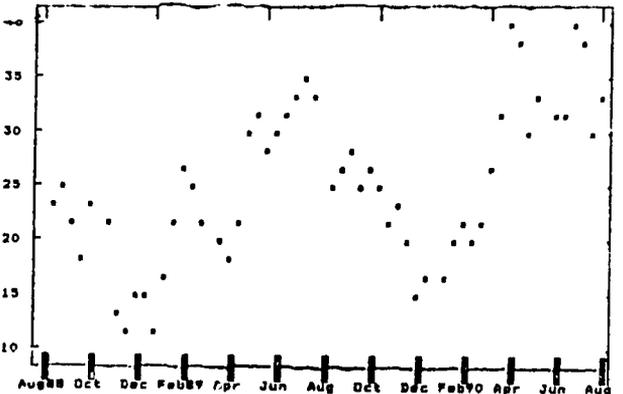
Meme: banana average price per kilo



Mok: banana average price per kilo

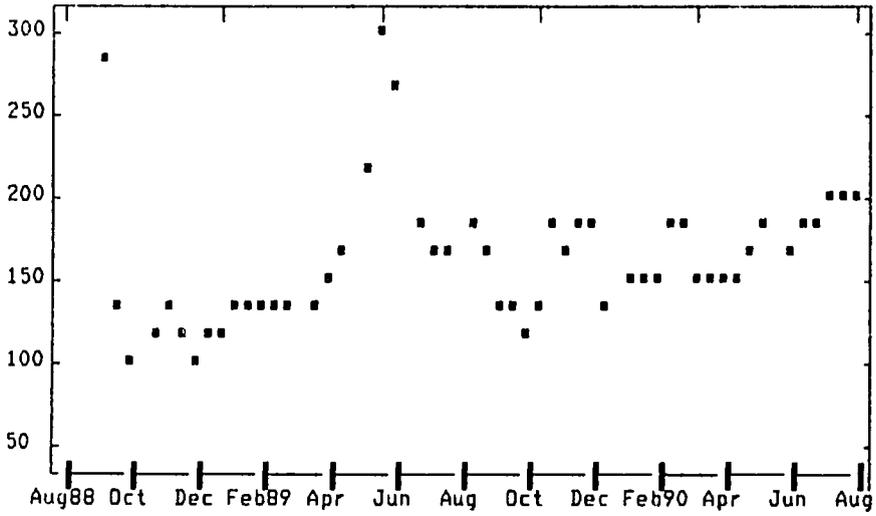


Ndian: banana average price per kilo

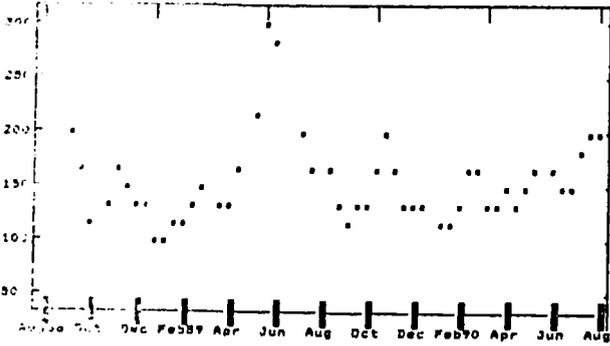


WHITE YAMS (D. ROTUNDATA)

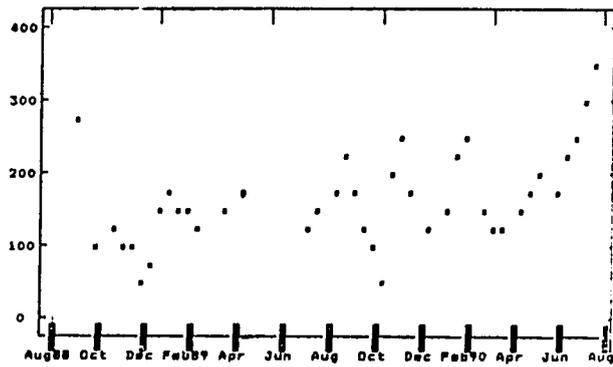
South West: white yam average price per kilo



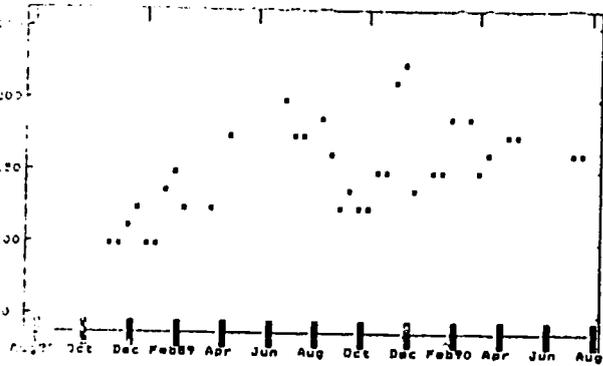
Fako: white yam average price per kilo



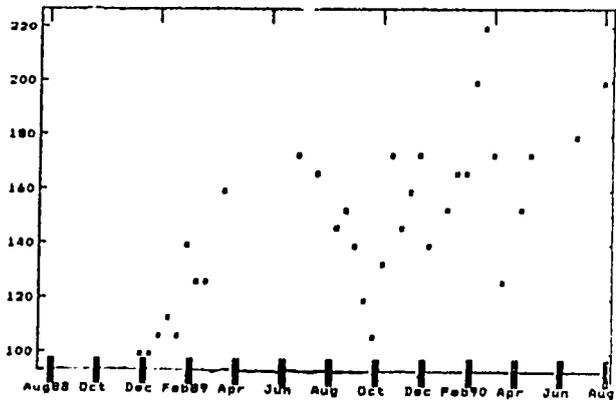
Meme: white yam average price per kilo



Manyu: white yam average price per kilo

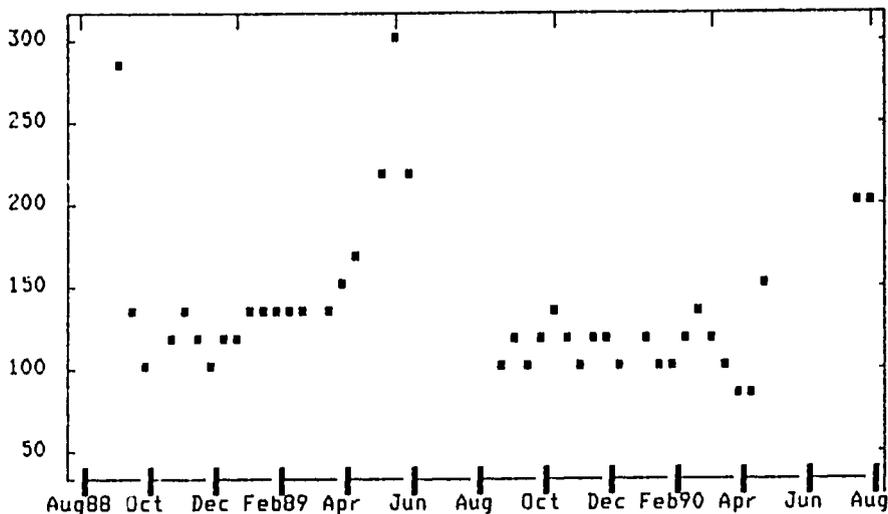


Ndian: white yam average price per kilo

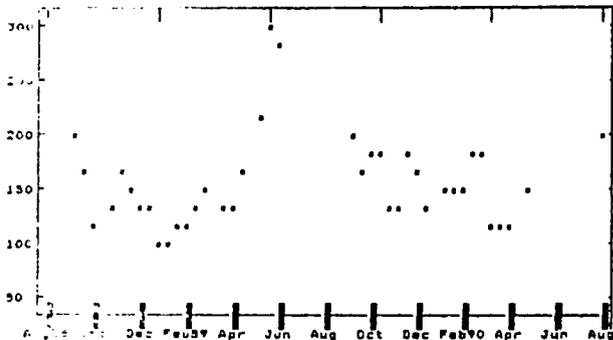


SWEET YAMS (D. DUMETORUM)

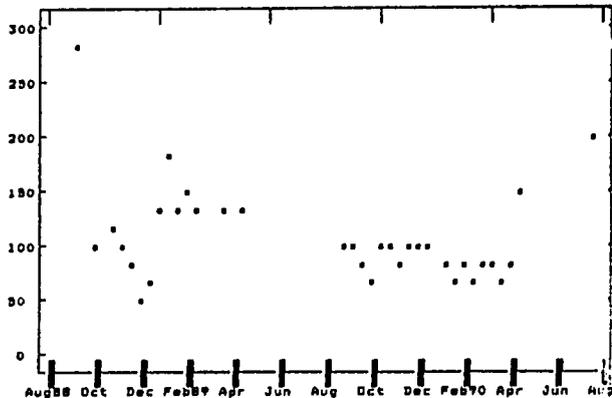
South West: sweet yam average price per kilo



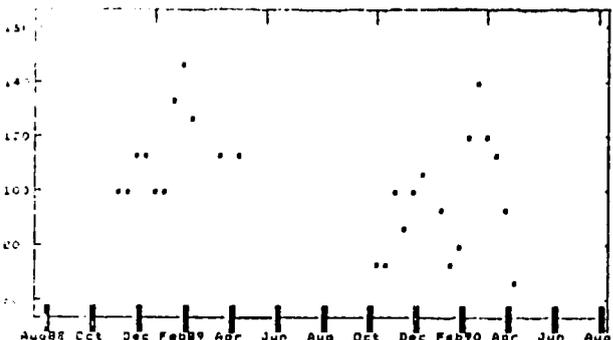
Fako: sweet yam average price per kilo



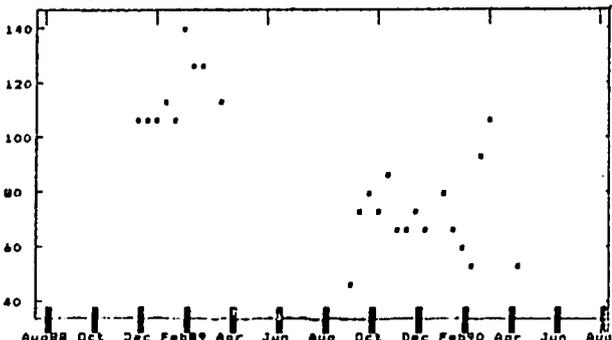
Meme: sweet yam average price per kilo



Munyili: sweet yam average price per kilo

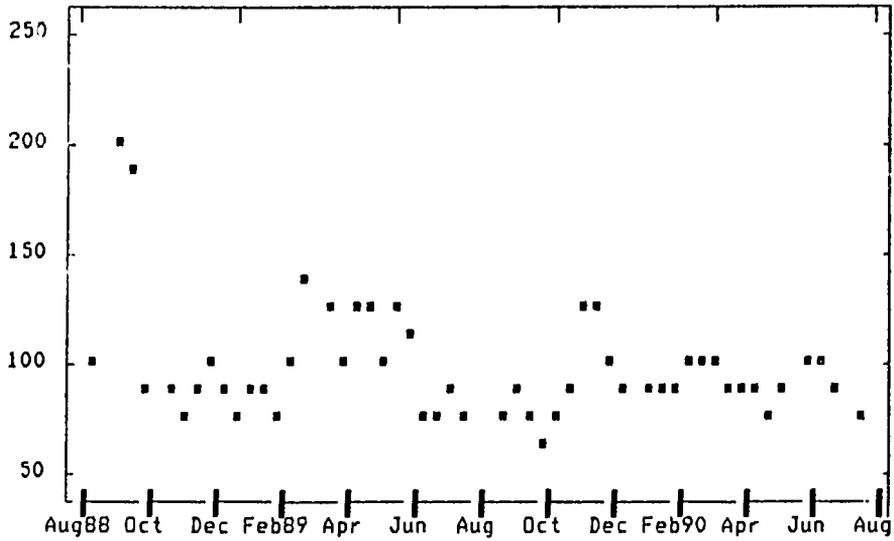


Ndian: sweet yam average price per kilo

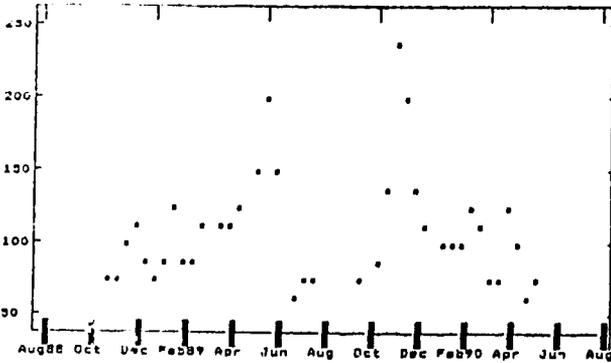


WATER YAMS (D. ALATA)

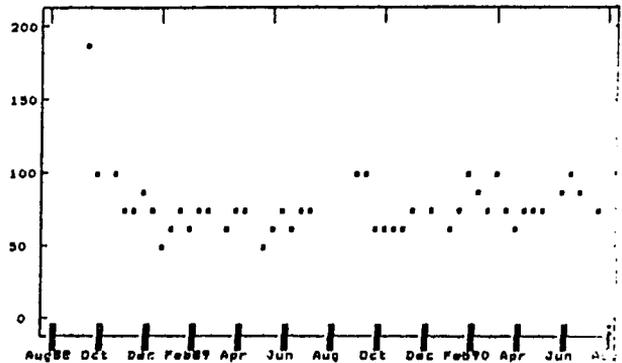
South West: water yam average price per kilo



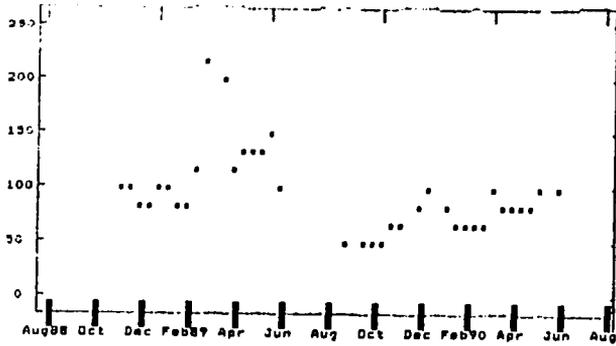
Fako: water yam average price per kilo



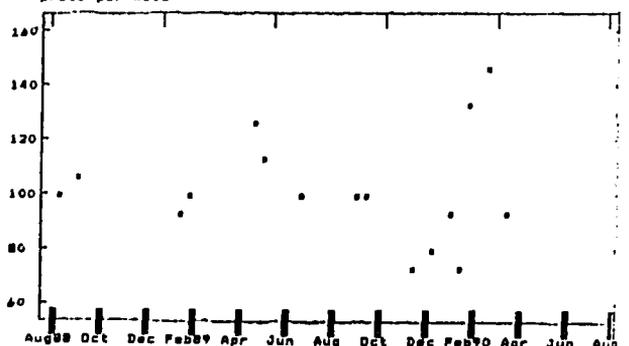
Meme: water yam average price per kilo



Nyulu: water yam average price per kilo

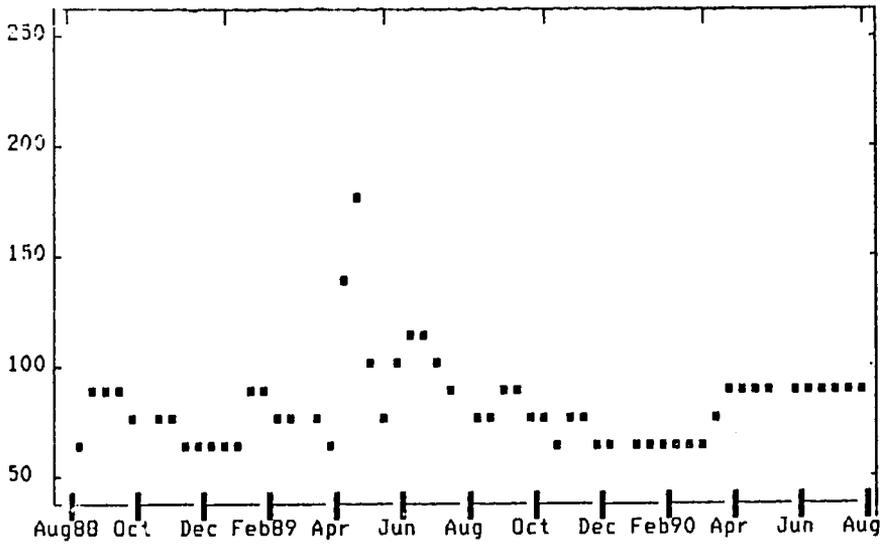


Ndian: water yam average price per kilo

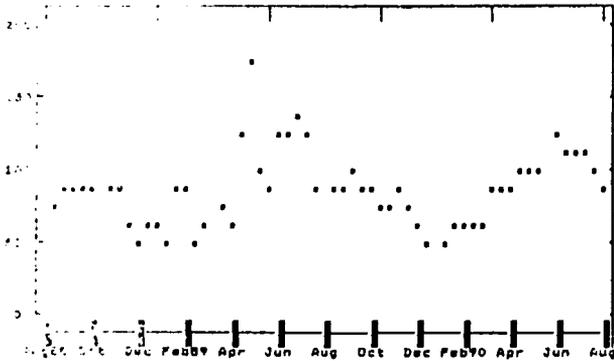


SWEET POTATOES (IPOMOEA BATATAS)

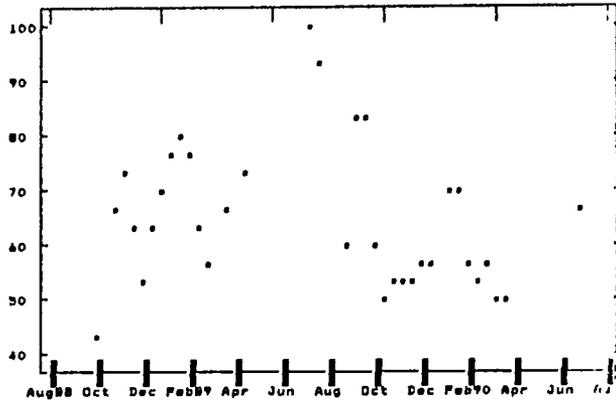
South West: sweet potato average price per kilo



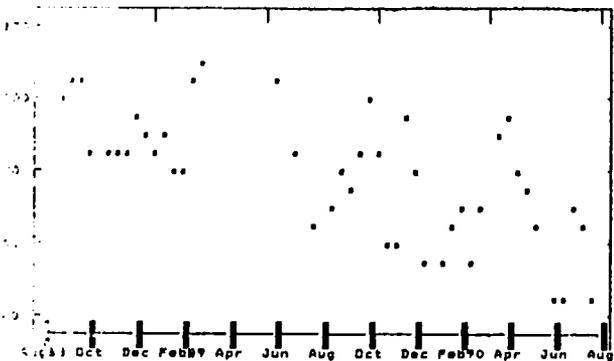
Fakoli: sweet potato average price per kilo



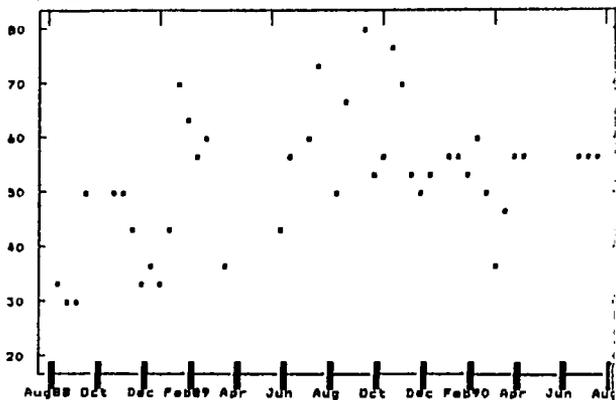
Meme: sweet potato average price per kilo



Pitanyi: sweet potato average price per kilo

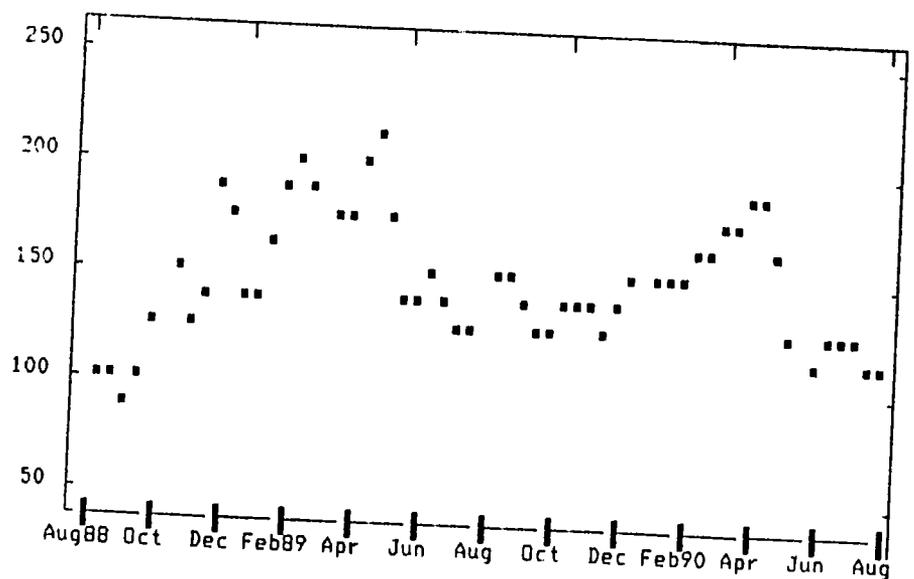


Ndian: sweet potato average price per kilo

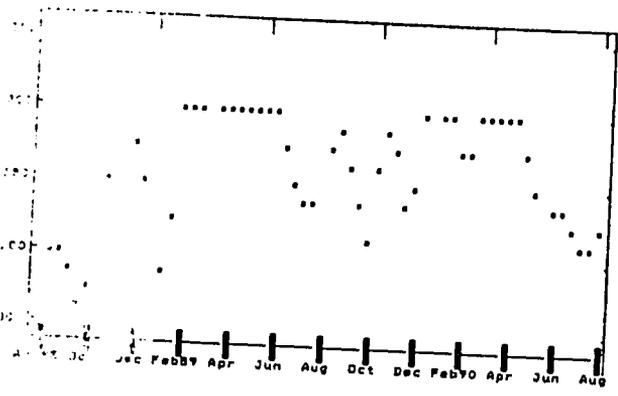


IRISH POTATOES (SOLANUM TUBEROSUM)

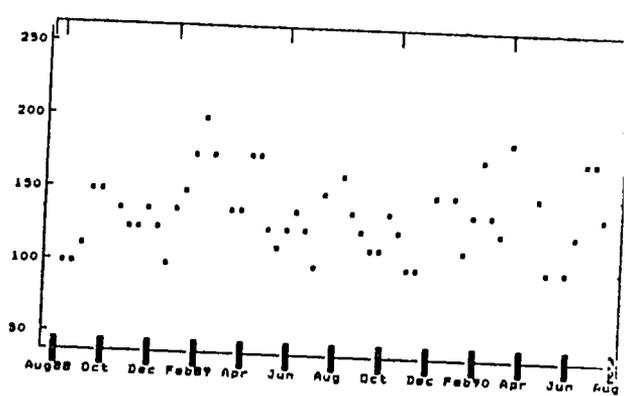
South West: irish potato average price per kilo



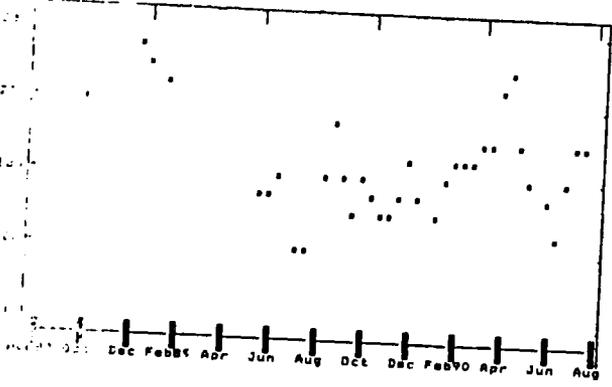
East: irish potato average price per kilo



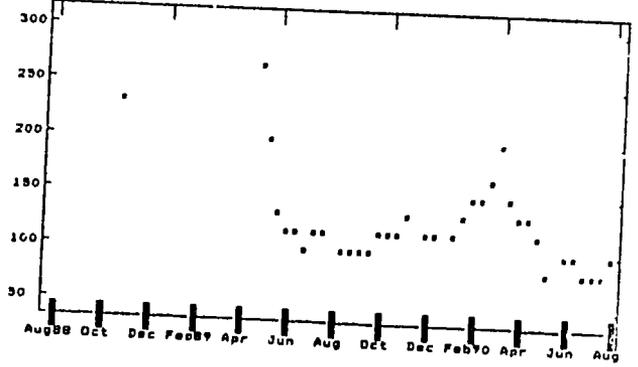
Meme: irish potato: unavailable



North West: irish potato average price per kilo

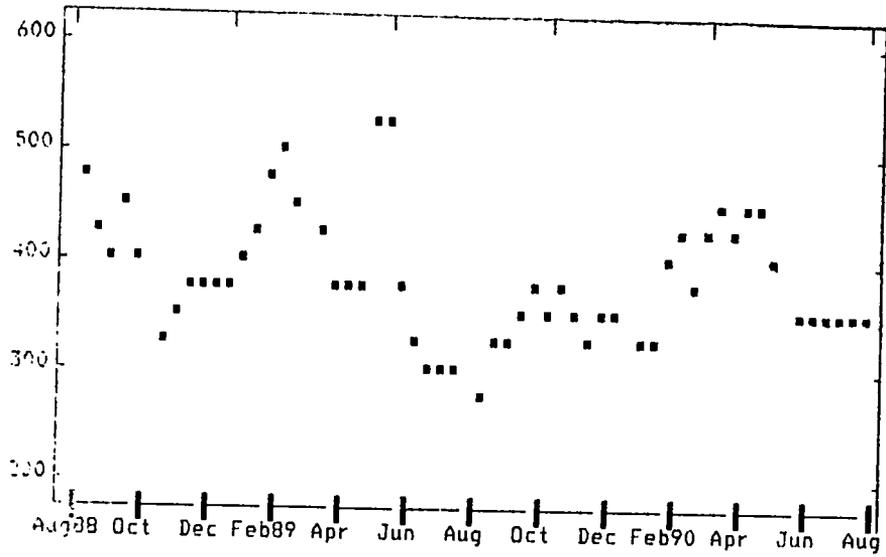


Ndian: irish potato average price per kilo

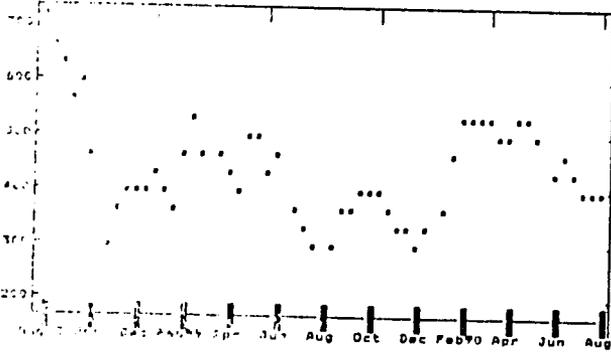


UNSHELLED GROUNDNUTS

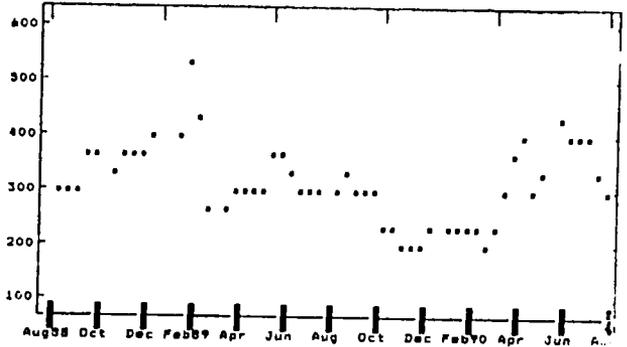
South West: unshelled groundnut average
price per kilo



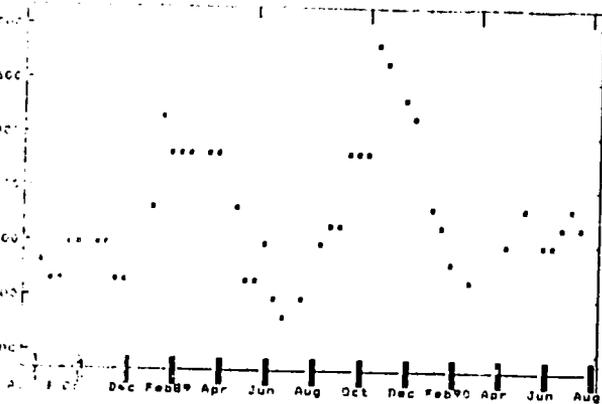
Meme: unshelled groundnut average
price per kilo



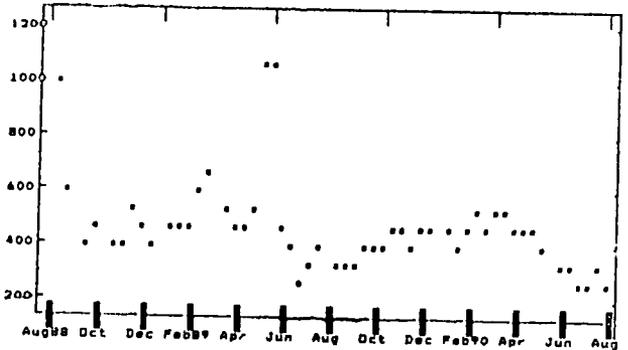
Meme: unshelled groundnut average
price per kilo



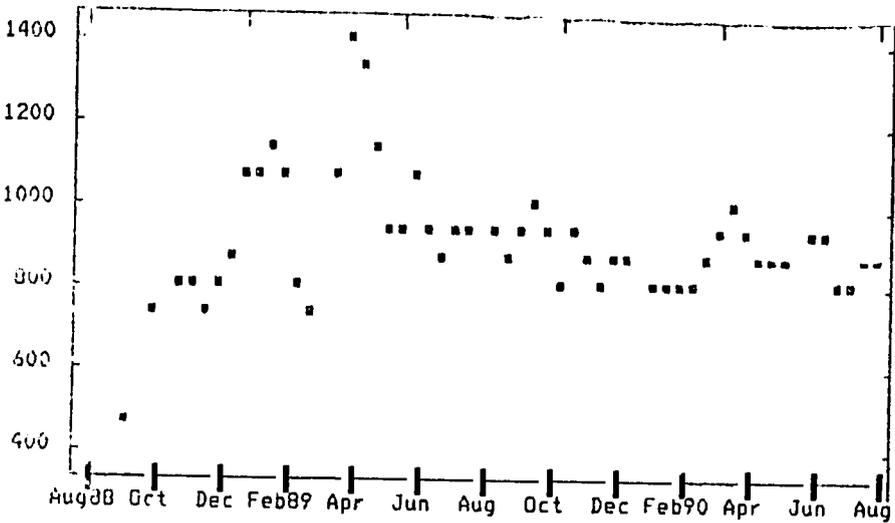
Mabye: unshelled groundnut average
price per kilo



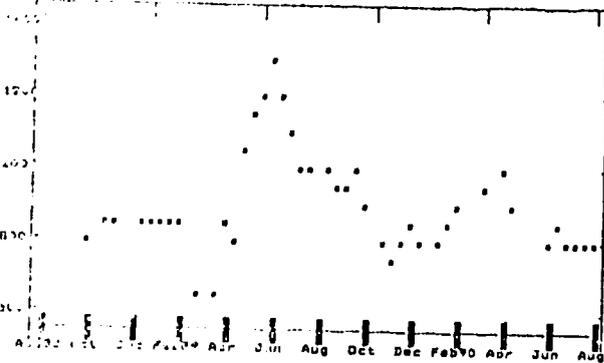
Ndian: unshelled groundnut average
price per kilo



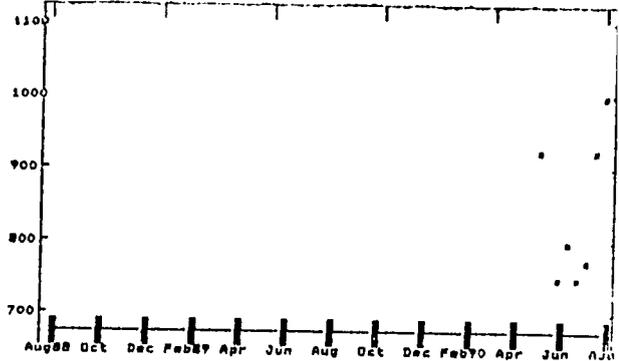
SHELLED GROUNDNUTS (until 6.90, only registered if none available unshelled)
South West: shelled groundnut average
 price per kilo



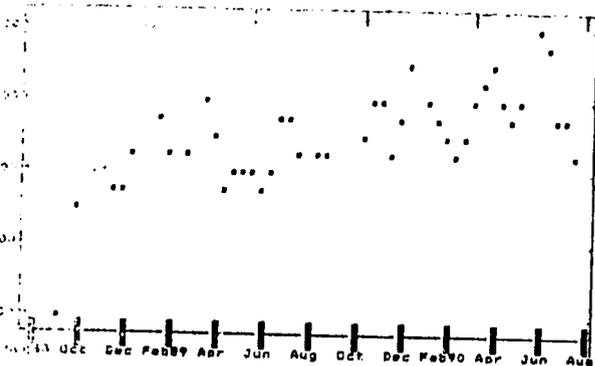
Senegal: shelled groundnut average
 price per kilo



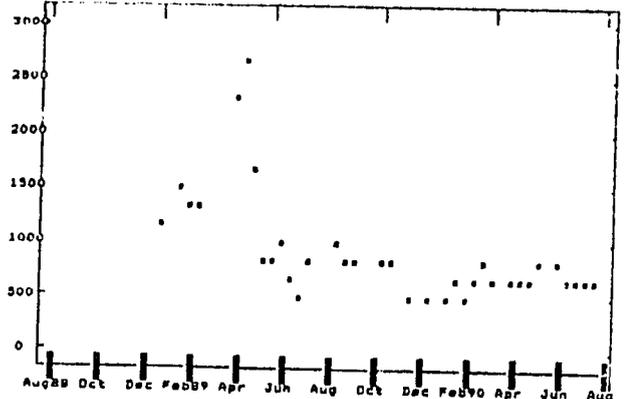
Mali: shelled groundnut average
 price per kilo



Mali (North): shelled groundnut average
 price per kilo

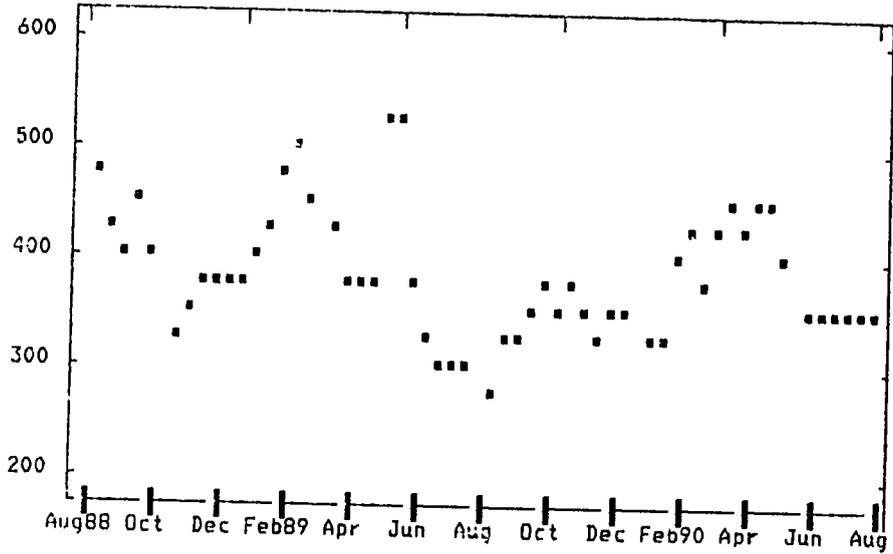


Ndian: shelled groundnut average
 price per kilo

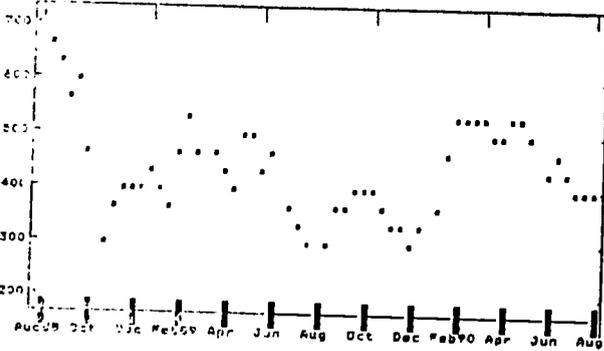


UNCRACKED EGUSI SEED (CITRULLUS LANATUS)

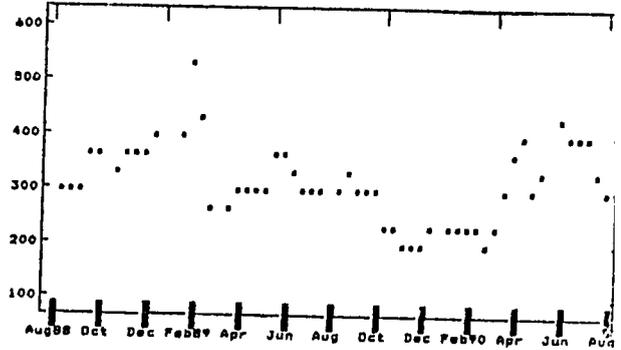
South West: uncracked egusi average price per kilo



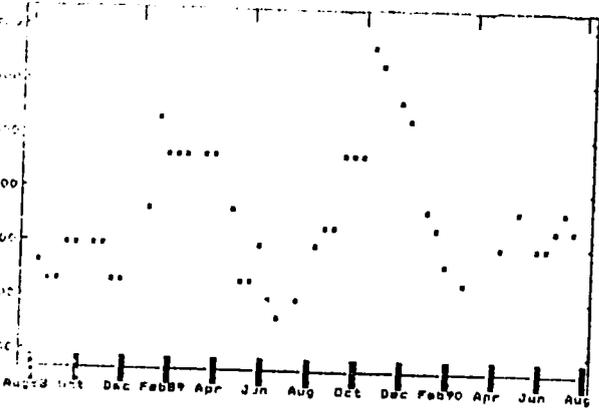
Fako: uncracked egusi average price per kilo



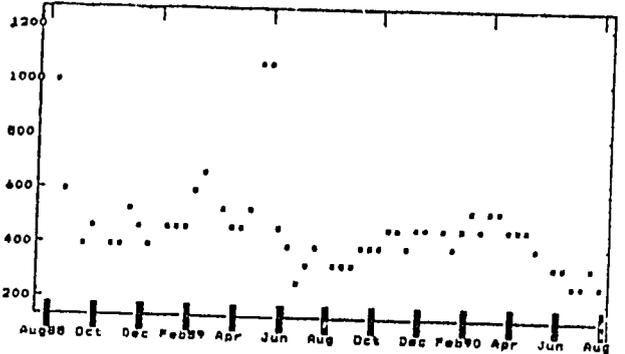
Meme: uncracked egusi average price per kilo



Manji: uncracked egusi average price per kilo

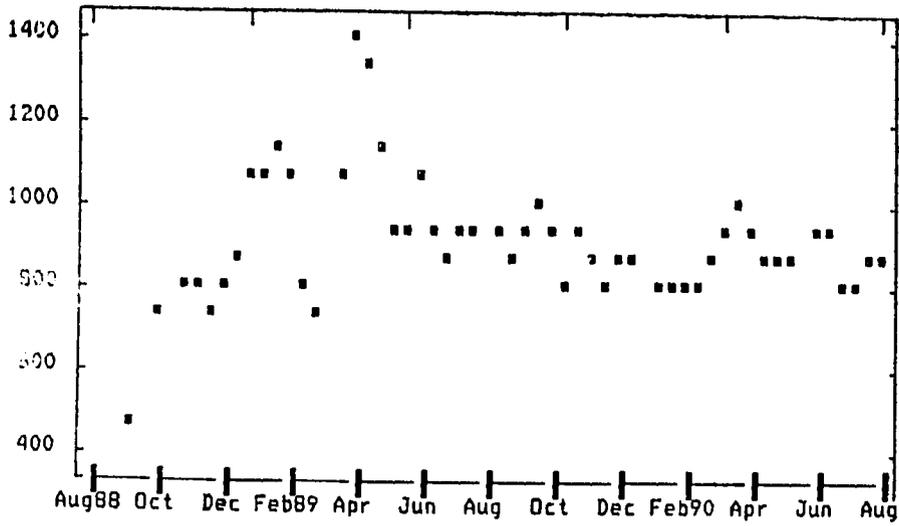


Ndian: uncracked egusi average price per kilo

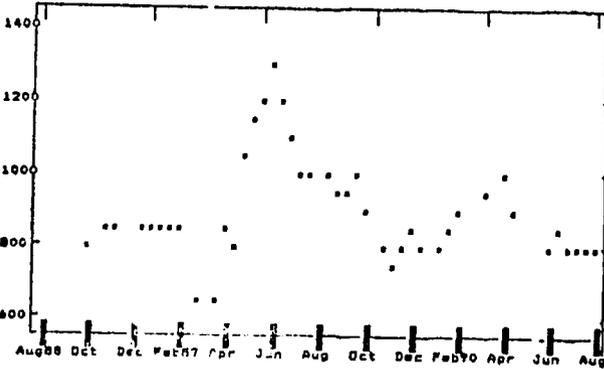


CRACKED EGUSI SEED (until 6.90, registered only if more common than uncracked)

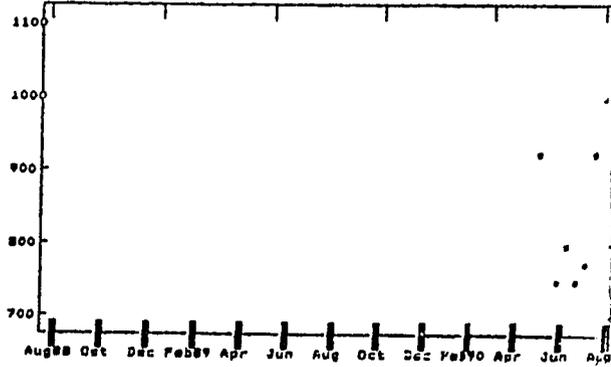
South West: cracked egusi average price per kilo



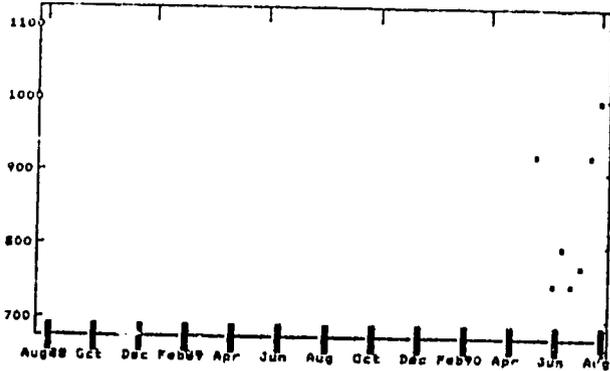
Fako: cracked egusi average price per kilo



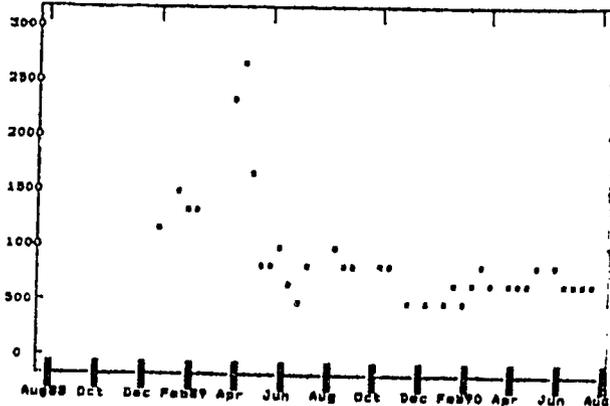
Meme: cracked egusi average price per kilo



Manyu: cracked egusi and uncracked seed average price per kilo



Ndian: cracked egusi average price per kilo



V. REFERENCES

- Almy, S.W., and M.T. Besong. 1986. Farming systems survey of Fako Division, South West Province, Republic of Cameroon. Ekona (Cameroon): IRA.
- Almy, S.W. 1987. Farming system survey of Meme Division, South West Province, Republic of Cameroon. Ekona (Cameroon): IRA.
- Almy, S.W., and M.T. Besong. 1988. Farming systems survey of Manyu Division, South West Province, Republic of Cameroon. Ekona (Cameroon): IRA.
- Almy, S.W., and M.T. Besong. 1988. Farming systems survey of Ndian Division, South West Province, Republic of Cameroon. Ekona (Cameroon): IRA.
- Besong, M.T. 1989. Economics of cassava production in Fako Division: A comparative analysis of local vs. improved cassava. Dissertation for the Ph.D. degree, Nsukka University, Nigeria.
- Boya, E. 1989. The potential for increasing cassava marketing in Fako Division, South West Province. Report for stage, Nkambe Technical School of Agriculture.