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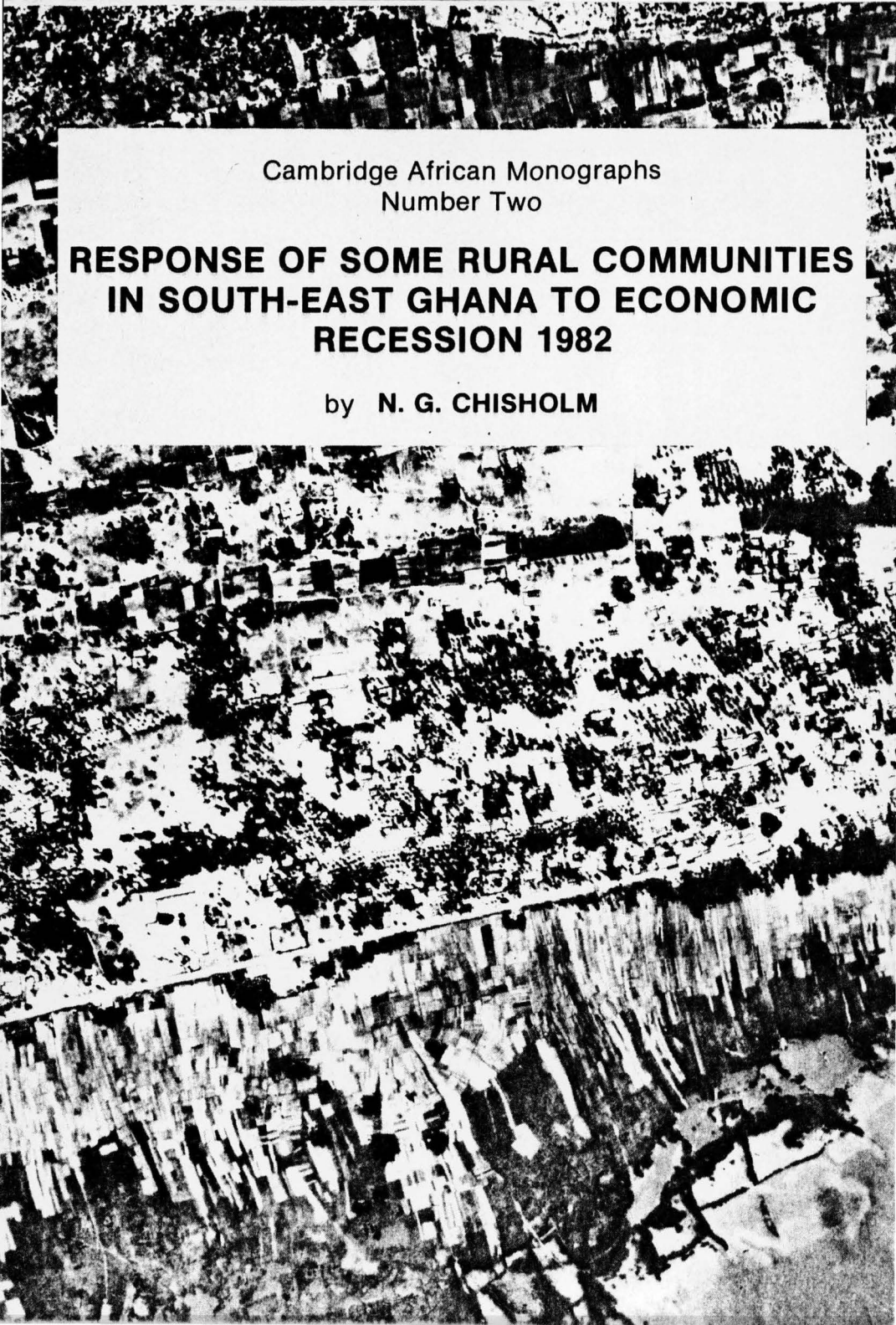
Number Two

RESPONSE OF SOME RURAL COMMUNITIES IN SOUTH-EAST GHANA TO ECONOMIC RECESSION 1982

by **N. G. CHISHOLM**



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N. G. CHISHOLM

AFRICAN STUDIES CENTRE
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The Centre of African Studies was founded in July 1965 to facilitate inter-disciplinary research and teaching in modern African Studies in Cambridge. It was also charged with publishing the results of research in African subjects. The African Studies Series is published by Cambridge University Press in association with the Centre. This volume in the Centre's OCCASIONAL PUBLICATION SERIES is by Mr N G Chisholm. A grant was made to the Centre by the Managers of the Smuts Memorial Fund which enabled Chisholm to spend 6 weeks in Cambridge and 10 weeks in Ghana, from March to June 1982, to investigate the possibilities for mounting a larger Centre research project in Ghana. This is his report on a situation which is changing rapidly and it is appropriate that it should be produced without delay.

A T Grove
Director
African Studies Centre, Cambridge

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INTRODUCTION

The origin of this research project lies in the deteriorating macroeconomic performance of a number of Sub-Saharan African countries in at least the last decade. Detailed presentation of the recent and current situation is contained in the publication of the World Bank entitled 'Accelerated Development in Sub-Saharan Africa: An agenda for Action' (World Bank, 1981). The report notes (pp.2-33)

> for most (Sub-Saharan) African countries, and for a majority of the African population, the record is grim and it is no exaggeration to talk of crisis. Slow overall economic growth, sluggish agricultural performance coupled with rapid rates of population increase, and balance-of-payments and fiscal crises - these are dramatic indicators of economic trouble.
>
> Between 1960 and 1979, per capita income in 19 countries grew by less than 1 percent per year, while during the last decade, 15 countries recorded a negative rate of growth of income per capita.
>
> The economic crisis is especially evident in agriculture... A 20 percent increase in (export crop) production registered during the 1960s was wiped out by a decline of similar proportions in the 1970s.. Total food production rose by 1.5 percent per year in the 1970s, down from 2 percent in the previous decade. But since population was rising rapidly by an annual average of 2.5 percent in the 1960s and 2.7 percent in the 1970s - food production per person was stagnant in the first decade and actually declined in the next ... Since 70 to 90 percent of the population earns its income from agriculture, the drop in production in this sector spelled a real income loss for many of the poorest.

This depressing picture certainly requires explanation which the World Bank report provides at length from its own perspective. Equally however it is necessary to 'get behind' aggregate statistics to observe and understand conditions and trends at the level of communities and family groupings, These are the elementary associations about which macroeconomic data provide no information. Yet the latter can on this account be misleading and result in inappropriate policy. There is in addition much

doubt as to the usefulness of stressing economic factors to the exclusion of sociological and political issues. The assumption that political leaders are even committed to 'development' as propagated in Development Plans and by such agencies as the World Bank is for example highly questionable.

The project originally proposed by the African Studies Centre aimed, then, to get behind the veil of macroeconomic 'crisis' and analyse effects on and responses of rural communities to economic recession. In the course of a pilot study in South-East Ghana findings of which form the bulk of this report, the nature and dimensions of recession in Ghana were explored, This has led to a greater appreciation of where the project's priorities might lie including some revision to consider urban, particularly migrant, communities. The suggested areas of study are presented in the final section of this report.

Any such project is partly an exploration of a methodology since, despite the emphasis in the World Bank report on similarities between states in Sub-Saharan Africa, conditions in any one country cannot be claimed to be adequately representative of others. Ghana, specifically its south-eastern portion, was chosen for the pilot study mainly for the following reasons:

(1) close academic connections exist between the African Studies Centre and members of the University of Ghana;

(2) previous work existed as base-line material for the study;

(3) Fieldwork was expected to be relatively easy in a country and region known to researchers of the Centre, close to Accra and with reasonable transportation facilities;

(4) Ghana's recent macroeconomic performance surpasses that of most African countries in its record of failure.

Ghana's economic decline is particularly striking in view of the high hopes held out for rapid social and economic progress following Independence in 1957. Such progress was defined in a particular way by the

new ruling elite who had themselves had the parameters of thought and action set for them largely by the experience of the colonial period. Leaders such as Nkrumah spoke in strongly anti-colonialist terms, yet most members of the elite had come up through colonial institutions and had developed many ideas and aspirations from the colonial experience. The resulting conflicts and contradictions in policy have probably been a major contributary cause of macroeconomic decline.

What effect would such policies have in rural communities where the majority, the non-elite, lived? In some countries the colonial period had already had major impact mostly in promoting export crops, in others it was limited, partly due to the failure of ill-conceived and poorly executed projects. There is a whole spectrum of analyses from those which stress the massive disrupting effect of the colonial and post-colonial 'world capitalist system' on the entire rural economy, to those which on the contrary consider rural areas to remain largely untouched (with or without implicit or explicit view of a traditional static society). Such sweeping statements are not the main aim of this project which starts from an appreciation of wide variations to be found in existing rural and urban societies: the pilot study served to confirm the view- point. The project is rather aimed at intensive analysis, primarily at the level of communities, at the same time presenting as accurate a description as possible of the national factors, social political, economic and environmental, affecting and resulting in individual and community responses. It focuses on change, particularly in respect of enduring social and economic structures under the new national economic conditions. And it is intended partly to be forward looking in drawing lessons for the future from present trends without being prescriptive. The dangers of generalisation have already been emphasised: what is needed ideally is a set of studies for different areas based on similar methodology from which comparisons and contrasts can be drawn. Suggestions along these lines are presented in the final section.

THE PILOT STUDY

The pilot study was meant to identify important components of any intensive project, to assess its feasibility (financially, politically, administratively) and to report on conditions in selected rural communities as compared with baseline material. Initial ideas on the nature of the project were stimulated by a report from the village of Hani in Brong-Ahafo Region of west- central Ghana. There the local economy had shown a return towards self-sufficiency and food crop production during the 1970s as a response to changing external relations (Poznansky, West Africa 1st Dec. 1980). Although creating interest, one feature of African communities is the variety of local resource-based 'organic' economies: one case cannot allow of many general statements.

The pilot study was therefore conducted in three areas all in South-east Ghana, partly to minimise transportation delays . A primary aim was to identify the most suitable method and scale of investigation to fulfil the project's objectives, as well as to define the latter and specific objects of study more concretely. These are presented in the last section but the methodology of the pilot study itself was partially suggestive of the way in which the project might be conducted. In the time available for the pilot study this could be no more than partially true.

The total period of fieldwork was ten weeks including time spent at the University of Ghana in Accra implying less than three weeks spent in each area. Methodology involved three basic approaches:

(i) 'participant observation' - discussions with men and women at workplace and home; informants were not chosen randomly in the sense of sampling theory but either at random in the specific context or according to their interest and knowledge in relation to the subject:

(ii) discussions with Government officers and other officials and academics;

(iii) collection of written secondary material.

The actual conduct of fieldwork was necessarily rather ad hoc, more so due to strained political and economic conditions following a coup (or 'revolution') on 31 December 1981. No permanent field assistant was engaged but a number of people helped at different stages: farmers and fishermen particularly just prior to planting season; schoolteachers; youths including a young man known to the author from a visit five years earlier. No formal questionnaire was used as it was thought largely unsuited to the main purpose of the study: Polly Hill's stricture that such an approach forces the researcher to set out on a voyage of discovery wearing blinkers sums up the objection in this case. A certain amount of standardised information was however collected on crop production in the lower Volta and the shallot-growing area of the Volta delta.

The three areas chosen for the pilot study and the existing baseline material were:

(i) the Volta Lake (southern section) - the present author worked there in 1977 studying the fishing economy

(ii) the lower Volta - social and economic changes over 1954 - 67 and the prevailing condition in the mid 1960s are described in a book and numerous articles by Rowena Lawson (1972)

(iii) the Volta delta - study was mainly restricted to investigating the current status of the shallot growing industry described for the 1960s in papers by Grove (1966), Nukunya (1975) and Benneh (1971). Roughly equal time was spent in each area plus about twenty days at the University of Ghana.

These three areas all form the major part of the Volta river basin. The damming of the river at Akosombo in 1964 had ecological results forcing social and economic adjustments throughout the basin. These were evident in the course of the study and it was necessary to take this factor into account in assessing causes of contemporary change.

ECONOMIC BACKGROUND IN GHANA AND RECENT EVENTS

A short description of Ghana's post-colonial experience up to the present provides necessary background to reports from local level. Conditions in 1982 have been affected at least superficially by measures taken since the 'revolution' at the end of 1981. These events are both a symptom of national decline and an attempt to reverse it based on a particular analysis of causes of decline. This analysis, in so far as it has ideological backing, is partly anti- imperialist' which in some interpretations may divert attention from internal causes. Leading members of the present ruling council have acknowledged corruption and profiteering; but the depth of their structural analysis of decline is questionable. To date (late 1982) there are few signs of a coherent political strategy emerging.

Ghana's macroeconomic decline seems to have been going on rather consistently since early mid 1960s and with quickening tempo since the mid 1970s. There is a temptation to correlate trends with political changes at national level; although the various regimes from Nkrumah onwards have used different policies and rhetoric, trends in macroeconomic indicators have been rather constant throughout. This reflects basic structural conditions in the post-colonial economy which a variety of policies has been unable to alter. The contemporary question of importance is whether, almost irrespective of policy, these conditions are forcing adjustments which may in time set up a different structural environment.

Ghana's attempts at economic development since political independence are described and analysed by Killick in his book 'Development Economics in Action'(Killick 1978). Nkrumah's socialism was seriously weakened by the dependence of the modern state (the public realm of administrators, civil servants, 'verandah boys' etc.) on revenue generated by cocoa exports. In colonial times cocoa production had expanded largely at the initiative of private farmers but the cocoa trade increasingly fell into the hands of state institutions which diverted much cocoa income into Government funds.

While cocoa production and world prices held up this tactic was supportable and in turn allowed a large public service sector to emerge dependent directly or indirectly on the cocoa economy. This sector largely comprised a growing number of well-educated persons who formed an urban middle-class of considerable political importance. When, later, revenues from cocoa declined it was difficult to diffuse this group for whom, as Beckman notes, 'Employment in the public sector rose to become the principal avenue of individual economic and social advance'. (Beckman 1981 in Heyer et al.).

In the early 1960s cocoa prices slumped and income stagnated. Government policy turned to large-scale public sector developments in agriculture and industry for which increasing amounts of borrowed money were required. Previous neglect of food crop production was to be overcome by development of mechanised state farms. These are generally considered to have failed, explanations vary sharply on causes, and to have barely added to agricultural output. The financial cost was high. A basically similar outcome followed attempts to establish industrial plants, many dependent on processing agricultural products, (sugar cane, cotton, oil seeds, etc.), which were barely forthcoming from local producers. Import requirements were substantial and added to the twin patterns of foreign exchange shortage and balance of payments deficits.

At this time of largely unsuccessful modernisation the cocoa economy was neglected. Prices continued to be depressed while output now declined. The financial basis of the state was being eroded.

In the post-Nkrumah era socialist ideology was replaced by a commitment, partly externally imposed, to liberalisation of the economy including greater reliance on private enterprise. But private entrepreneurs of the capacity to manage former state concerns were limited in number; on the other hand the salaried bureaucratic class remained strong and were still supported by government. Control of cocoa trade effectively remained in the hands of this group some of whom resorted to smuggling to neighbouring countries. Failure of attempted industrialisation and, except for the mid-1970s cocoa boom which was largely offset by rising oil prices, the decline in public revenues from

cocoa meant supporting the public economy largely through printing more money. Other techniques were also tried, in particular in the mid-1970s by sponsoring private capitalist agriculture on large farms. This involved making available bank credit, inputs, tractor and marketing services, etc to a group who were in many cases the same bureaucrats, army officers, etc. that the State was already supporting. The high level of subsidy and imported inputs required indicate that reliance on such a group, frequently absentee, is highly unlikely to solve the growing problem of domestic food shortage.

Printing money to support bureaucratic and other urban positions set off a huge price inflation-exceeding 100 percent annually by 1978. Stagnating productivity in agriculture was worst felt in food prices i.e. the impact was most severe in urban areas, reducing real incomes of wage employees dramatically. The decline in food supply reflected both previous neglect of food crop production and an increase in non- agricultural population, ironically partly caused by migration to urban areas to gain benefits of the state-supported urban economy.

This condition has intensified in recent years and this is a particularly appropriate time to question what is happening outside the realm of public policy. The latter, seen from the above account to have followed a variety of ideologically sharply contrasting paths, has at all times been unable to reverse the deterioration, and has often made it worse. This should alert the researcher not to put too much emphasis on the state in such an economy: yet the relation between state and 'peasants' for example is significant for both parties. The state sets parameters within which individuals and groups pursue their objectives or sometimes has more direct involvement as in cocoa marketing, but the State and its associated bureaucracy are currently dependent on the peasants: their formal development plans are based on expectations of rising domestic food production and more basically they need food for their own political survival.

The inadequacy of conventional 'dual economy' paradigms becomes clear: it may be more appropriate to consider an ironic inversion. The characterisation of dual economies presents a modern industrialised

sector receiving necessary technology and inputs and harbouring a 'labour elite'. This is surrounded by a traditional static agricultural sector using primitive techniques, family labour and operating at low productivity. Whilst superficially the situation in Ghana does bear resemblance to this description the usual implications for 'development', that the traditional sector has to be transformed to bring it into the modern economy, appear to be contradicted by actual events. In the current situation it is the 'modern' economy that is showing most signs of disintegration: whether the 'traditional' society reveals itself in the course of 'the economic crisis' to be not just resilient but capable of adaptation is a primary concern of this project.

Apart from its descriptive value such a project might be a useful corrective to ill-conceived analyses which continue to inform 'development' projects, not least those sponsored by the World Bank, in Africa. This appears particularly relevant in view of the Bank's influential document quoted from above which may serve as a blueprint for development aid to Africa in the 1980s. It envisages Official Development Assistance (ODA) almost doubling in real terms over the decade, a level required, with 'policy reform' to avoid 'virtual stagnation' (p.123), An increased share is expected to go to agricultural development but it is not clear from the document that any conclusions have been drawn from the experience of the 1970s. In that period growth of food production in Africa as a whole was well below the increase in both rural and total population despite greater emphasis than ever before of governments and external sources of finance on food production projects. Agriculture received about $5 billion in aid over 1973 - 80, $2.4 billion of it from the World Bank. 'These projects have so far failed to boost output or have been offset by declines in other parts of the food economy' (p.47). Such an outcome may not surprise observers of past rural development projects which have often been faulty in underlying assumptions about a particular economy and society and hence also deficient in design and/or execution. Examples are reviewed by Williams (in Heyer, Roberts and Williams (eds.) 1981).

In Ghana and other African countries - e.g. Tanzania and Zambia - present trends suggest a reality apart from the idea and practice of

development planning and projects. Events are not 'going according to plan ': plans and projects fail not just due to lack of commitment by implementing agents but also because of resistance of the 'objects' of development, notably the peasants. Such resistance is usually perfectly rational from their point of view but problematic for elites and modern sector employees in urban areas. The results are described for Ghana in the Economic Survey covering 1977-80 (Central Bureau of Statistics, Accra 1981):

> A precipitous fall in the real earnings of the employed classes on account of inflation, an exodus of qualified and experienced persons to neighbouring countries, and a continuous increase in idle manpower in industrial establishments due to under utilisation of installed capacities characterised the employment scene in recent years.

Installed capacities have always been under-utilised but the extent has increased sharply in the late 1970s. The Survey gives the following indices:

- average capacity utilisation for all (large and medium scale). manufacturing industry; 1978: 40.4%; 1979: 33.1%; 1980: 25.5%

- index of employees' real (average monthly) earnings: 1976: 100; 1978:53; 1980 (provisional):41.

The latter shows clearly the extent of the fall in real income of urban wage earners. The minimum daily wage was tripled in the late 1970s but inflation quickly eroded any benefit from this measure. Movements in consumer price index show this: 1976; 56.7%; 1978:243.3%; 1980: 540.6%.

Prices of basic food items have a weighting of just over 50 percent in constructing the CPI and increases in these prices were in the forefront of the inflation. The annual rates of change in the CPI as a whole and the food price index alone over 1976-80 were 75.7 percent and 78.3 percent respectively. Both rates are known to have increased in the rampant inflationary spiral of 1980-81. Expansion of the money supply to support domestic expenditures fuelled this inflation. There was a four-fold increase in money supply over 1976- 80 (and a thirteen-fold increase over

1972-80) and the deficit on current and development expenditure rose from C871 million in 1976-77 to C4440 million in 1980-81. About 60 percent of this debt is held by the Bank of Ghana.

The data suggest differential impact of the 'crisis', affecting the low income urban employee more than the self-employed farmer in the 'traditional' sector producing food crops. Scope also exists for large trading profits and in recent years there has been a trend to move out of urban wage employment into private trading. Since the start of 1982, trade in all non-agricultural produce has been strictly controlled. New minimum wholesale prices for food were also announced but higher open market prices (up to C1000 per maize bag against C400 'control') have made them inaffective. A widespread suspicion exists that market women are a major cause of high food prices. This had led to periodic physical and verbal attacks on them and burning of markets by the army but no other system has emerged to replaced the present organisation.

There is also a tendency to blame food shortages on traders and transportation problems: the downturn in cocoa production has been attributed to similar causes. But these only supply a partial explanation. Trends in agricultural production are crucial to the whole economy and require detailed analysis. This is best achieved through intensive micro-level studies of the type proposed later for the project. Here it is only noted that cocoa production, the major source of the country's foreign exchange earnings, has continued to slump while non-cocoa crop production has supposedly declined slightly over the 1970s partly due to a run of bad weather in 1975-77. The Economic Survey gives the following production statistics:

cocoa production: 1975-76: 401,000 tonnes; 1978-79: 265,000 tonnes

cereal crop production: 1974: 890,000 tonnes; 1978: 540,000 tonnes; 1979: 780,000 tonnes. The accuracy of the statistics is questionable but the variations so large that they presumably give at least a correct indication of trends.

The above data taken together present economic conditions in aggregate terms. They provide the background for the variety of actions and adjustments made by different groups in the society. They also allow setting up of hypotheses to be explored in the project. These would include establishing whether:

(1) a return flow of urban-rural migration is occurring and/or there are increased flows of food being sent 'outside the market' from rural to urban area;

(2) food crop production is substituting for non-food crop production and subsistence production for cash cropping;

(3) substitution is occurring between imported domestic items and those produced locally;

(4) attitudes towards land are changing to greater awareness of economic value, as would be revealed by land sales and tenurial patterns, cropping intensities etc.

There are other important issues: for example how do the urban low-income group survive? How is the food trading network organised and does it provide 'excess' profits to traders? Ability to tackle these questions depends on the scale of the project. Meanwhile some of them are considered in the report from the pilot study areas which follows in the next section.

The project therefore aims to consider communities' contemporary responses to national economic decline from at least two viewpoints:

(1) the adjustments of economy and social organisation largely internal to the community

(2) the adjustments representing changing relations between the urban/migrant colony and their home area, rural community and state agencies, rural producers and urban markets, community and state political institutions; and so on

These two perspectives are essentially interrelated but the conceptual distinction is useful. It seems important to consider something more than

just the changing degree of self-sufficiency of rural communities since it is clear that the state and urban dwellers are now critically dependent on rural producers even to the point where withdrawal into self-sufficiency threatens the conditions of existence of the state. Certainly the confidence of early independence has evaporated, What remains to be seen is whether the state can assert itself and be seen to be offering something which makes it meaningful to the majority who are perhaps increasingly defining development in their own terms and by their own actions.

RESPONSE OF RURAL COMMUNITIES TO ECONOMIC RECESSION

I. Volta Lake

Introduction

This report is necessarily very sketchy, based as it is on observations in only one fishing community, at three lakeside markets and at one of the few schemes to develop farming around the lake. It is however an area which I know slightly, having studied the fishing economy in more detail and with wider coverage in 1977. This meant I could more readily understand activities and relationships in the area; it also gives some, admittedly weak, basis for comparison over time. My conclusions on changes are also partly based on discussion with research officers of the Volta Lake Research and Development Project (VLR & DP) at Akosombo.

Research and Data 1977-82.

It is rather significant that, in trying to discover how conditions have changed over 1977-82, I was hampered by the absence of much up-to-date information, a major nationwide consequence of the economic recession. The breakdown of research infrastructure (mostly transport) and staff morale go hand in hand: no large-scale surveys were conducted over the period so that there is considerable ignorance about the current state of the fishery in its socio- economic, health and biological aspects. Not surprisingly therefore few developments have been attempted by the VLR & DP; indeed the Volta River Authority (VRA) is now so disillusioned with that aspect of the Lake that it is preparing to withdraw, leaving basic research to the Volta Basin Research Project (VBRP) at the University of Ghana and development activities to the relevant Government Departments. There is no expectation that either research or development would improve as a result.

Organisation of the Fishing Economy: introduction

Fishing on the Volta Lake is practised largely by migrant groups who moved to the area after the Akosombo Dam was closed in 1964, While a number of ethnic groups are found on the Lake three-quarters are Tongu Ewe. Most Tongu come from the Lower Volta below Akosombo where previously they fished and farmed in a seasonal pattern determined by the annual flooding of the Volta River. Many also migrated upstream to fish for a season,returning home when floods had subsided. The closing of the Dam disrupted this cycle and the response of many was to move onto the Lake, at first seasonally, later on a more permanent basis.

Since the ecology of the Lake stabilised around 1968 the Tongu have had time to adjust to changed environmental conditions; any more recent adaptions may then be viewed, partially at least, as a broader response to a changing knowledge of recent biological trends: the fishermen's claim of a declining catch cannot be substantiated nor, if true, can the cause be identified, ie. whether due to overfishing, reduced stocks due to a successively lower Lake level (which has occurred with poor rainfall in the upper reaches of the basin), inefficient and inadequate fishing gear (which has also occurred: fishing nets are not presently available and current gear old and weakening) or reduced fishing effort. Fishermen themselves emphasise inadequate gear, a consequence of the national crisis which affects each as individuals; the other unknowns have to be viewed for the fishery as a whole and are much harder to determine.

With so many qualifications it nonetheless serves a purpose to relate certain features of the Lakeside organisation seen, regrettably, in a very limited area. Needless to say the scope for broader coverage is considerable.

Organisation of the Fishing Economy and Communities.

In the time since the Lake formed, fishing settlements have become more permanent, less in physical structures than in the minds of the migrants. But there is a marked ambivalence about this which seems fundamental to the fisherman's personal and social organisation and which may change over time.

In the days when migration was seasonal it was for work only: the river was the workplace and the swish houses temporary work camps from which fishermen would return home after the season finished (July-August). Only some of their family would go with them. These conditions have now changed, and had done so before 1977, to the extent that the workplace is now occupied for practically the whole year and more family members are present; there is a form of social organisation based around a chief fisherman who represents the community in dealings with the local chief. But in important ways these are not seen as permanent settlements and it is necessary to give instances, cited by fishermen and by others and by others in their 'home towns', and some implications.

First, the family house is situated in the home town on clan land. Fishermen are strangers on the Lake occupying land belonging to other ethnic groups (and usually paying a nominal fee); their ambition is to build a family house in the home town and considerable expense is put into fulfilling this. The house must be a good one of cement block and tin roof; the absence of such materials under the present economic conditions has caused a recession in house building rather than a return to swish huts. On the other hand the latter are still, it seems, the main style on the Lake. No one wants to build his family home outside clan land. In this way the Lake is still just a workplace, albeit one where most fishermen now spend 80% or more of their time. The physical manifestation of this separation of workplace and home is the presence in the home town of large numbers of concrete and tin houses unoccupied for most of the year. It is not enough for a fisherman to lodge with relatives if he has his own family and has money and materials for his own house. It is not only prestige and status which dictate this pattern, although they are important, but also a need to identify with the home, the place to return to and to be buried in and,

more practically, a need for a place to lodge on visits and on retirement.

Second, visits home may now be of shorter duration but all go back for the festival time around July-August, many for Easter and for funerals of relatives. In the Battor-Mepe area, from which a large proportion of the fishermen come, funerals seem constantly in progress: deaths are announced over the radio and fishermen will instantly travel long distances to attend, but probably particularly during the slack fishing season, Funerals may be postponed to festival time when everyone will be there: it is necessary to honour the dead properly.

Third, family structures on the Lake are changing to become more balanced. In the earlier times of migration, fishing was seasonal and there was no need for the whole family to move; some but far from all women would move for the economic functions of preserving and marketing fish as well as for performing domestic roles. Elder heads of families generally did not move and still remain in the home town. Young children are needed to assist in fishing and household work but many remained at home with grandparents while youths often helped as assistants in fishing canoes. Now more wives and unmarried girls have moved onto the Lake so that families are being reared there. Young boys assist their fathers in fishing so that, after a time, the need to take on an apprentice is obviated. Many children still attend school in the home town however, staying with grandparents and moving to the Lake at holiday time.

Over time therefore the workplace has shifted to the Lake on a permanent basis but family and clan attachments to the home town remain strong. Major issues arise from these features concerning use of surpluses from fishing, the changing nature of work and future preferences of schoolchildren, here dealt with in turn.

Fishing, Capital, Returns

The fishermen claim to be catching less now. They were talking during the dry (lean) season but there are grounds, cited earlier, for trusting their judgement although no survey data to prove it. Returns may therefore be lower than previously while costs of refinancing, to replace worn nets, for example, have risen sharply in recent years. In 1981 a bundle (100

yards) of net cost around C6000 (about L1200 at official exchange rates) against C5-700 in 1977. To work continuously a fisherman may need up to five bundles of various mesh sizes, all of which would be replaced preferably after two years. Shortage of nets has forced fishermen to continue to mend and use old ones which become less efficient. Some fishing, but not a very significant part, is done using traps, spears, hooks and cast nets. Making one's own net is implausible; some have prepared a short length of strong cord net to trap large fish (mostly, Nile Perch) but sustained effort needs considerable length and variety. The prospect of nets being produced in Ghana seems more promising. Two factories were established but have met with various problems and are not producing.

Financing the materials' cost of fishing nonetheless now involves large amounts of capital. Price of fish rose sharply commensurate with the financing cost in 1981: the Lakeside wholesale price, averaging roughly 4C per kg in 1977, reached to about ten times that level (C40-C60) during 1981 with major fluctuations; since then prices have fallen (for example one large smoked piece, sold to a trader in 1981 at C150-C200, currently sells at C50-C60 although how long such control will remain effective has yet to be seen).

If per unit costs and returns fluctuate proportionately fishermen's incomes may still be lower than before due to lower catches; surpluses will then be lower and the rate of house-building in the home town could be expected to decline. This has happened but not necessarily due to lack of cash on the fishermen's part. In the first place many have already completed their houses, doing so even in the 1960s. Secondly, building materials have become both very costly and in short supply: only those who progressively bought materials over the seasons can now construct houses.

For some the issue does not arise. A son can expect to inherit his father's canoe and nets but where the father is still working or was not a fisherman young men starting fishing need an initial fund of capital. In many instances the source is a fish trader.

Production and trading meet in complex arrangements which developed in the early stages of the Lake fishery. Bank or co-operative financing has

made little impact for co-operatives are seen as institutions through which nets are obtained for individual use, so that self-financing or recourse to traders are the major source of funds. If a trader buys nets the fisherman is obliged to sell his fish to that woman, failure to do so would be a breach of trust to which the trader could respond by refusing to advance loans in the future. Different systems appear to prevail: at one market (Kpandu Torkor) fishermen are paid the market price and repay the cost of the net when able (or else they borrow to purchase it outright and gradually repay the loan); at, another (Kwamekrame) traders would pay a margin below the market price, an effective interest rate, and in addition would hope to retain the fisherman as their 'customer' even after he had paid for the net which then becomes his. At this stage the trader pays the market price.

Work

For many fishermen, entering into such arrangements is the only way to start and to expand. Fishing with only a single net restricts activities and makes growth difficult. A frequently expressed view of fishermen and farmers was that without hard work they would not expand or even manage to retain their position: the same people also considered themselves hard workers as opposed to others. The necessity to work hard is allied to an expectation of reward for one's effort: fishermen expect to see an immediate return to manpower expended and in good seasons the return would often be substantial, enough to allow them to neglect the idea and practice of farming. A bad catch is a waste of manpower. Concern with physical return to effort, the catch itself, appears more immediate than ideas of a 'just price': but fishermen do fix prices and some believe traders make large profits, by implication through 'exploitation'.

There is no benchmark to compare fishermen's effort now with former levels but limited opinions canvassed suggest they are now working harder, partly due to external pressure. The most prominent change has been expansion into farming, primarily for subsistence crops (maize and cassava) but including cultivation of groundnuts, tomatoes, pepper, etc, for sale. Previously cash income from fishing was used to buy much of the family's food needs and barter exchange secured forest crops. Uncertainty

of price and supply and possibly a decline in real income from fishing have created conditions where farming for oneself is increasingly preferred. Family sizes have also increased so that more food is needed and there is also a larger family labour force - particularly since more women have moved onto the Lake. There seems to be no uniformly rigid sexual division of labour since the main cropping seasons fall either side of peak fishing time (generally considered August-October); but even during land preparation (April-May) men usually fish before going to farm. The result is a smaller area planted than might otherwise be manageable and a wider survey might confirm a preference among many fishermen for the immediate visible returns from fishing and even hunting (a reasonably widespread activity) to the uncertainties of securing a food supply and surplus. Necessity is forcing a change as fishing nets wear out: it is accepted that farming has increased this year under the threat of sharply reduced fishing effort and income (this trend is visible elsewhere, perhaps notably in Accra where verges and gardens are being cultivated for maize, a clear response to deteriorating urban living conditions). This appears to be mainly to secure family consumption needs rather than substitution for fishing on grounds of greater profitability. Expansion for profit probably is occurring amongst non-fishing communities within the constraints of labour and capital as food prices, despite 'control', remain very high.

The fishing communities are generally sited in bush savanna above the Lake 'drawdown' zone: both areas support maize and cassava and the latter is also potentially good for tomatoes and vegetables. Expansion in this zone has led to a number of recent attempts by local chiefs to extract fees although it is supposedly Government land. A small rent is also paid for cultivating 'upland'. Adjacent areas are suited for forest crops and local non-fishing groups occupy or have migrated to them. This provides a basis for a barter exchange system which developed shortly after the fishermen settled. In the area on the west side of the Lake between the Obosom River and Afram Arm three barter markets, operate in a market cycle, all on the lakeside. People bringing produce come before a prearranged time to display a variety of foodstuffs prior to exchange. The local market at Bubu Vitasikope (the main area of fieldwork) was overseen by the chief fisherman's son (in the absence of his father, founder of the

village). Trading starts at the appointed time and thereafter he is responsible for settling arguments, Exchange is made by placing fish on a certain quantity of (for example) palm nuts, the relative quantities then being haggled over until both sides are satisfied or else withdraw the offer.

This barter system enables these isolated communities to satisfy specific needs without having to travel long distances to larger rural markets, Producers can continue to specialise in activities suited to their immediate environment, Violent monetary fluctuations probably make barter exchange still more attractive although it was stressed that these markets were established prior to the recent general economic and monetary decline.

There is a second arena for barter exchange which appears more directly connected to national economic fortunes. At the lakeside wholesale assembly markets barter takes place between traders and producers rather than between direct producers only. The trading network has evolved to channel fish to major urban centres, primarily Accra, Kumasi and other large regional towns. At the lakeside markets fish is delivered and bought for bulking into larger consignments, small fish being sold in lots of one hundred, large pieces in singles. (A large basket of fish may now cost around C2000 and wealthier traders will buy a number of baskets each market day: for some an outlay of C10,000 (L2000) per market day is probably not an exaggeration and the potential for large gains or large losses in a short time is considerable).

Since most of the supply is ultimately controlled by traders with the most capital there is a reluctance to break supplies down and sell for cash: cash returns can be expected to be higher in urban centres (traders naturally give no clues on their net incomes). As a result fish is barely available to consumers around the lakeside markets except where market women exchange it for their family's food needs with producers of forest crops. Salaried employees in local towns are the main sufferers from this system: fish sold locally is in limited supply and normally highly priced. This may give a high margin on the small turnover of petty traders who themselves buy foodstuffs for perhaps up to C100 before bartering them for

fish, a 'barter system' between two sets of traders. An attempt, evidently shortlived, was made in 1979 to eradicate this practice at Kpandu Torkor market by police and armed forces as traders came under the attacks to which they are currently being periodically subjected. Feeling persists that traders are making huge profits at consumers' expense. Traders strongly dispute this: meanwhile fish has certainly become an item almost of luxury rather than of mass urban consumption.

Family Structures and Children

The issue of sexual division of labour was discussed above. Further division of responsibilities occurs where wives are involved in fish trading. A fisherman sells at a price fixed amongst the fishermen to his wife who in turn preserves the catch and takes it to market for sale. The fisherman does not know the prevailing market price so that his wife's margin may be greater (or less) than expected: that becomes her profit (or loss). Some fishermen apparently do not expect to be informed if their wives make greater profits; others do share such gains (but not necessarily losses). The way in which money is shared determines who buys particular items of household consumption: men buy most goods except for the kitchen but where women gain greater financial independence they are also expected to buy their own cloth. Men will buy for children and pay for their education.

There is evidently a strong desire on the part of many fishermen that their children should get at least elementary education; and an equal desire of able children to pass through middle school. An increasing trend since the lakeside settlements became 'permanent' has been the establishing of elementary schools usually up to Class 3 or 4; these have been set up by the community and are often staffed by teachers returning from unremunerative service in towns. Children of this age are still contributing to domestic activities. Many villages have no such school however and children are more likely to be sent to the home town to lodge with grandparents, returning to the Lake during holidays. The prospects for the national economy must bear on the intentions of children and the apparent response is significant (and not unique). The preference of middle school leavers of a decade ago for white-collar jobs has evidently

sharply declined since salaried and wage employees working in the modern sector are worst affected by Ghana's economic slump. A remarkable decline in employees' real earnings has occurred, from an index of 100 in 1976 to 41 in 1980 (Economic Survey 1977-80, Central Bureau of Statistics, 1981). The status of such work, especially compared to the contempt for 'peasant' farming taught in schools at that time, was a factor additional to the economic one attracting school leavers, but the economic disadvantages are now so great as to be exerting a strong influence. Out of 46 middle school leavers from Battor in 1981 about 30 moved up to the Lake for fishing (boys) or processing/trading (girls) and only 5 moved on to secondary school. Equally important, though, was the insistence of some on completing middle school rather than leaving early; and of the presence on the Lake of some fisherman previously working in Accra in blue- or white-collar work who had returned to fishing/farming as a more secure and profitable livelihood. Quantifying this trend is not now possible but it is important to discover its magnitude and significance for the future of rural and urban economy and society.

Trading and Other Activities

Certain features of the complex fish trading structure were discussed above, viz. the role of traders in financing fishermen and the assembling nature of marketing leading to limited 'barter' exchange. It remains to describe basic features of organisation although the basis of certain relationships is complex and barely revealed by such superficial examination as was possible on this occasion. The need for a thoroughgoing study has been emphasised recently by the physical and verbal abuse which traders have been subjected to in connection with their alleged exploitation of producer and consumer alike. This contrasts sharply with certain research findings (Pearson et al. 1979) which have influenced latest World Bank policy towards sub-Saharan Africa. This report is particularly unsuited to discuss these allegations; attitudes and responses of producers vary, one group forming a People's Defence Committee (PDC) with the intent of opening up local fish trading to outsiders to break a perceived monopoly, others attributing inflated retail prices to high transport costs and return to traders' 'manpower', a reward for effort which traders themselves emphasised.

Allegations of monopoly in the trade are hard to prove. Local traders at the landing markets are organised under the trade's Queen Mother but her function is to settle disputes between local traders. Two Queen Mothers stated they could not prevent outsiders from trading, nor did they have any role in price-fixing: in fact due to widespread personal or patron-client links between producer and trader the existence of a single market price is very questionable. At the three markets visited outsiders were trading, including some operators previously dealing in commodities now distributed solely by Government-appointed agents (or not available at all). A complaint about recent entrants at Kpandu Torkor was their tendency to breach existing patron- client networks, based on supply of nets by traders, through offering higher prices to fishermen. Such cases were in a minority but indicate the possibility of open entry even raising retail prices. They also illustrate the apparent truism that control over capital allows control over the trade: although by itself such a statement is hardly revealing of its growth and dynamics. It is accepted that financing a fisherman by providing nets guarantees a supply: a small trader may have financed a single net, other traders are known to control about twenty fishermen. The origins of these relationships are unclear: they may stem from kinship (most but not all traders are Ewes), from loans previously taken, or from conventional commercial connections. In the absence of other suitable institutional arrangements this form of financing has advantages for fishermen as well as for traders, the former being guaranteed a sales outlet and sources of loans if needed, the latter controlling an assured supply in some cases at discounted rates. It is not clear what proportion of the fishery is involved in such relationships: the number is probably substantial and other sources of supply of nets, notably co-operatives, of which formally there are over two hundred, have had relatively slight effect.

Many intermediaries operate in the trade. A typical pattern involves sale by a fisherman's wife to a wholesaler going to Accra to sell retail or whole- sale, the latter being more common. More extensive networks exist: traders from lakeside markets themselves go 'overbank' to the villages to buy and bring fish for the wholesaler: these women may work with an important wholesaler being either relatives or 'customers' (agents). Other traders act solely as assemblers, buying and selling at the same market.

These latter obtain their supplies largely through providing nets as described above but seem to be in particularly close relationship with the fishermen. Such intermediaries operate at Kwamekrom (it is not clear if a similar arrangement exists elsewhere but it could not be identified in eight lakeside markets surveyed in 1977), a settlement established in 1971 when Ewe fishermen moved from the resettlement village to Tapa Aboloase following a dispute with the chief. The traders were processing and marketing fish even prior to resettlement, ie. this group were fishing the Volta River upstream from Akosombo before the Dam was built, and developed enduring relationships at that time.

There is considerable variation in the scale at which traders operate. Turnover is at all times rapid, payment being immediate or at the next market, but normally only larger traders can work on a scale to bear transport costs to the main towns and cities where they will normally sell wholesale to specific 'customers'. These traders must be able to raise finance very quickly and may take short term loans. They do not seem to directly finance smaller traders to capture a larger supply but the same effect is achieved through providing nets and by having relatives or employees to buy fish from the villages. Original sources of funds are unknown but must be accumulated over time or transferred from other activities: since net prices have become so high the funds required to control a large supply are substantial and such a scale is therefore inaccessible to most traders.

An integral part of the trading structure is the transportation system connecting lakeside markets and the fishing villages. This system comprises 40-50 foot-long 'engine boats' powered by outboard motors (although five boats with inboard engines have started to operate from Kpandu Torkor since 1977). Currently a number of boats are laid up for lack of spare parts, and maintenance involves transfer of parts from reserve engines. This problem appears to be hampering boats at some markets more than others, probably a function of boat ownership. Many boats operating from Kpandu Torkor represent investments by wealthy members of the community (a reputed smuggler owns one, a former District Magistrate at Ho has three, etc) who are better placed to obtain the necessary parts and engines through, for example, personal shopping trips to Nigeria. By

contrast local ownership dominates at Kwamekrom: owners are generally not in such a position of influence. Laying-up is a serious problem which may not be quickly solved. One boat represents an investment of over C30,000 (almost C60,000 in 1981) even before the cost of engines and running costs are considered. Routeing is arranged between the boat owners who in both Kpandu Torkor and Kwamekrom have quite recently formed associations for this and other functions. Presumably a boat temporarily laid up would not lose its route permanently although the increase in registered boats over time suggests new owners can enter and compete for custom. Some - but seemingly not many - boats are owned by fish traders, probably representing a separate investment rather than a conscious attempt to integrate all stages of marketing.

Other lakeside activities deserve brief mention. Most fishermen live on the west bank of the Lake and along the various arms of the tributary rivers. Beyond the immediate lakeside, forest areas occur where non-fishing ethnic groups grow forest crops. Krachi yam-growing areas are quite extensive and migrant labour may be employed (a traditional seasonal movement of Dagati labourers from NW Ghana to the Afram yam zone occurs), Other resource-based activities include akpeteshie-making (local gin) from palm wine and hunting: bush-meat brought to market fetches a high price and grasscutters, guinea fowl etc, are quite plentiful, Nearer to the lakeside, grazing land exists and a number of cattle herds are kept partly by Ewe from the Adidome District in the Lower Volta where cattle are widely owned, Mat-weaving using lake reeds is a minor occupation. Cassava and maize processing is usually done at a mill if one exists. A simple engine-powered method of preparing cassava for dough or gari has spread in many villages but the equipment, a grater, for manual processing is still in most households: fuel shortages make it necessary to use this laborious means at times.

Fishing activity has also led to an expansion of private boat-building concerns, some having existed before 1964. Canoes and engine boats have expected lives of 5-10 years if handled well so that continuous replacement and repair should sustain these activities even if further expansion is less certain. A boat-building yard forming part of the VRA - sponsored complex at Kpandu Torkor has suffered from material shortages

and staff indifference. The training school for young fishermen and fish traders has likewise declined, the subsequent employment record of trainees, who are not originally from fishing families, being poor.

Other areas of expanded employment resulting from the lake fishery include lorry drivers, mechanics, carriers, teachers, and agricultural officers,

Peasants, Government, Development Programmes

By the time the Akosombo Dam was finally constructed the aims of the Volta Lake Project had been reduced. Electricity generation to smelt imported bauxite had become the main rationale, resettlement of displaced communities being the other major responsibility of the Volta River Authority (VRA). VRA was not required to consider downstream effects of the Dam although these were substantial. Nor did Government consider compensation for these areas.

The response of downstream communities nonetheless showed their capacity to adapt. Their well-developed system of economic activities, based on annual fluctuations in the level of the river, was disrupted but the formation of the Lake provided new conditions which could be exploited. Many people migrated, at first only seasonally, to take advantage of improved opportunities for fishing. A system providing capital (nets, canoes) and to market catches was developed rapidly without help from Government or external agencies and this system has continued to function autonomously. The new Lakeside communities also received little Government assistance to develop health or schooling facilities (despite widespread incidence of bilharzia). Some communities have themselves built and staffed elementary schools; for further education children have to go to towns and often live with relatives in their home town for this purpose.

The relationship with Government and other development agencies therefore appears limited; this should come as little surprise to those familiar with both the migratory practice of Ewe communities and the indifferent record of institutionally-based rural development programmes in Ghana. The fishing communities have developed themselves: no-one should

be surprised at their ability to adapt as the potential of their old environment deteriorated. But even in the areas where Government and the 'peasants' could be mutually involved the gap tends to remain. Government officers are rarely if ever seen in the villages, 'essential' commodities rarely reach the fishermen/farmers, or if at all, only at a high price representing profit raked off by various intermediaries (including those in Government). Farmers are left to diagnose and develop a solution to a disease in cassava, their basic subsistence crop, apparently receiving neither information nor much interest from local officers (this disease, currently affecting much of the cassava crop in Volta Region, is the result of a mealiebug pest attack. There is a known way to combat it but nobody seems to have told the farmers what it is! They have in some cases developed their own response). Bilharzia remains quite widespread with little attention being paid to its alleviation.

This record of indifference, perhaps supported in the past by mental attitudes of superiority amongst qualified officials, is well known to rural communities. The latter are in fact better placed to practice indifference which may have as consequence refusal to produce the larger surpluses needed to sustain a community of non-producers. Failure of officials to appreciate this has been their own downfall over the years although the preconditions for major agricultural expansion are admittedly not fully understood (partly because little effort at understanding has been made). It may be that they are emerging from the present economic situation itself as urban living conditions become too harsh and labour remains in, or returns to, the villages. A limited attempt at irrigated development on about 20 ha. at Ampem on the Afram Arm with substantial VRA input of labour, materials and advice has allowed farmers to raise high-value crops, notably tomatoes, but at the apparent cost of making them dependent on subsidised institutional support. With VRA withdrawal seemingly imminent it is not clear that the farmers would continue to collaborate or be able to manage the scheme.

Introduction

The area below Akosombo is the home of Tongu Ewe who have traditionally been farmers and fishermen. Before the Dam was closed economic activities were closely linked to annual flooding of the river. This filled numerous ponds and creeks to support substantial fishing activity and also improved crop yields due to residual moisture. After closure of the Dam in 1964 the annual flood ceased and both the fishery and soil fertility declined. Water flow also decreased causing the localised 'oyster' (clam) beds to be displaced downstream.

Economic activity was primarily resource-based, tied to local ecological conditions. In the original scheme the Dam, by generating electricity for industry, was meant to release the economy from its dependence on local resources. Such a policy never progressed far however: instead activities were adapted where possible to meet new ecological circumstances. This implied migration which is well within the tradition of riverine and coastal Ewe; not all could migrate and a consequence is seen in unusual family structures in the Lower Volta communities.

The report below concentrates on certain features of this adaptation and on activities of those who remain in the area. It may be read as a follow-up to Rowena Lawson's (1972) earlier work in the area covering the period 1954-67, without in any way trying to match the detail contained in that study. It should be stressed that changes in the economy due to the environmental disturbances of the Dam need to be distinguished from those adaptations resulting from subsequent national economic problems. Adaptations to environmental changes were generally prompt so this does not present problems in a broad evaluation: precise measurement would be harder but was not attempted here.

Responses to the Dam: migration and its consequences

The immediate response to the impoundment of the Lake was a large-scale movement of most able-bodied men to exploit the developing fishery there. The first four years saw fish stocks building up rapidly to a peak (around 60,000 tons in 1968) before declining to a stable level (around 40,000 tons).

At first many Tongu persisted in the seasonal pattern of fishing with the peak catches occurring during and after floods, beginning in June through to October-November. The main planting season was in April and May when work on the farm was most vital. The comparative potentials of the two areas were soon apparent however: longer periods on the Lake required more permanent settlement and an expansion of subsistence farming activity. Women moved up in greater numbers and involved themselves in farming, fish processing and trading as well as in domestic work; children born in Lake settlements would be reared there in the earliest stages although many were sent to the home town for schooling.

No demographic survey exists specifically for this area but social and economic influences have had profound effects on household structures. Older men in the Lower Volta did not all migrate even if their sons did so. In 1964 farming compared well with river fishing so that all those who migrated could not have gone with the equipment then available. Initial financing, already discussed, led to the current links between fishermen and traders: with a high proportion of younger men on the Lake the incidence of materials becoming available through inheritance must have been relatively low. Fishing materials would have passed to the eldest son leaving others to be apprentices or raise capital elsewhere. Even then it was usually not desirable for the whole family to move if there was family land and, perhaps, ageing parents to maintain at home.

The interplay of these factors has left a demographic structure where most able-bodied men are outside the home towns at all times except for funerals and festivals; but with the exception of some who are responsible for cultivating the family land. Old people remain, mostly farming, as do young people attending school: probably a majority have parents on the

Lake and lodge with grandparents or uncles. There are families which have always taken farming as a priority and continue to do so, thus retaining a conventional extended family demographic structure. In addition some women have not moved up to the Lake and support themselves particularly through farming, petty trading, and oyster fishing: although to pursue the latter migration (downstream) is again usually involved. Finally a few families are involved in teaching or other Government service: often these are 'strangers' who have no choice, by the nature of their work, but to live with the changed conditions. They too are having to adapt and take up farming.

The widespread view in Mepe and Battor (two large villages where fieldwork was concentrated) is that the area has declined and is poorer due to the Dam's effect on the environment. It would be poorer still but for the substantial - but unquantified - flows of earnings returning from the Lake fishery in the form of cash and 'investments' in house-building. The decline is exacerbated by the labour shortage created by migration: old men and women have capacity to clear only a limited area and family land is under-utilised as a result. Adjustments have been made: schoolchildren staying with grandparents are expected to help on the farm and in some cases fishermen send money to their parents to pay for hired labour or tractor hire. Despite such measures the overall acreage cultivated annually has probably declined; yields per acre have also almost certainly fallen while dependency ratios are abnormally high.

The importance of the flow of remittances from the Lake is therefore paramount. The flow is family-based rather than community-based and through it household cohesion is in some way maintained. Meaning is given to these relationships by frequent visits home from the Lake. 'Everyone' comes in July-August for the annual festival and there is a constant stream of people attending funerals, sending children to school, erecting a house there to lodge during visits and perhaps for retirement. No inconsistency is seen in this use of funds: it is a necessary part of one's belonging to that home town. Even though a fisherman may not live to retire to his own house it will be there for his children; so that while poorer people may not build or complete their house due to shortage of funds a common lament of fishermen is shortage of building materials on which to

spend existing savings. Currently shortages and high prices combine to limit the number of houses; status requires cement block and tin roof construction. A substantial number of the houses stand empty monuments to the opportunities grasped and hard work on the Lake.

The Economy of the Lower Volta: 1982 Perspectives

a. Agriculture

The area is topographically separated into lowland and upland. Differences in elevation are slight but important for soil moisture capacity and susceptibility to flooding. In the past, when the river flooded annually, the lowland was covered with water and yields in the following season would exceed those on the upland - apparently due to moisture retention rather than to alluvial deposition enhancing fertility. When flooding ceased yields naturally declined in the lowland: some areas may still be better suited to rainfed agriculture than the upland but this poses a risk of flooding in July-August destroying food crops.

Demographic structures are a major cause of highly variable family farm sizes. The modal farm size probably falls between two and five acres but the command over labour in particular, but also over capital, differs widely and the effect is seen in farms of about one acre contrasted with a few nearer fifty acres. One man cultivating one and a half acres of maize and cassava for his ageing parents for example was the only one remaining of four sons and four daughters of his father's two wives, the others having departed for the Lake and to Tema. He fishes and has also taken a job at the local shell factory. In contrast one family with twenty resident members (father and wife, nine children and nine grandchildren; another ten children being away on the Lake) cultivated 54 acres in 1982 having hired a tractor to clear land. This family depends on hired labour for clearing and harvesting although family labour is also used. The major constraint is capacity to clear land (limited by tractor availability) whereas for others, labour and capital shortages make expansion of the cultivated area difficult even before tractor availability is considered.

Land preparation involving clearing and hoeing, is probably the most arduous and time-consuming activity: many families therefore believe that mechanised land preparation would allow them to expand land under cultivation. This is seen as necessary to reduce dependence on purchased commodities during times, as at present, when goods are highly priced and/or simply unavailable. The decline in acreages, per acre yields and fish yields, has placed some families particularly in the larger villages in this position; they tend to engage in other work such as petty trading, selling prepared foods and employment in the shell factory to supplement family income and purchase basic items.

Cultivation is by bush fallowing, ie. rotation of land involving fallow after three or four years' cultivation. Land shortage is not a general problem but localised cases occur. Generalised land surplus obviates need for tenure arrangements to allow use of the land of fishermen away on the Lake. As previously noted, part of this land is usually cultivated by a remaining family member, possibly even the landholder if he was too old to migrate. Where the father has died but most children are away, one brother often remains as custodian of the family land: the family decides how the produce is to be distributed.

Maize and cassava are the main food crops grown, groundnuts the main cash crop; while tomatoes, pepper and okra are also often planted separately or as intercrops. There is a hectic period in April and May prior to the rains when all these crops are to be sown. It is at this time that tractor services are in great demand, tending to be far in excess of supply, the result being inequalities in prepared farm size of the order mentioned above. Available tractors are both Government and privately owned: shortage allows the latter in particular to charge high hire rates which dissuades smaller farmers, even if they could get the service, from using it. Bank credit is generally unavailable and private borrowing rarely desirable. Small farmers therefore remain small, even smaller than they themselves, let alone 'development' agents, may wish. If the possibility appears open to introduce chemical fertilisers to raise per acre yields little of this has yet been tried: such fertilisers are generally not used, some farmers holding sceptical views about their effects on soil fertility. Agricultural officers who encourage their use

hardly help their own case when it becomes clear that, as often happens, the fertilisers are unavailable.

The above paragraphs relate to the generally autonomous farming community whose only experience of Government schemes is their involuntary and generally adverse involvement in the Volta Lake Project. Other schemes, notably the Adidome State Farm, have been tried while presently the potential for irrigated farming totalling several thousand acres is being closely explored in a number of areas identified by the Volta River Authority. Water is to be supplied both by pumps and by gravity-fed distribution. While such schemes should be technically feasible, the most surprising aspect (perhaps less surprising in Ghana than it should be) is the failure to consider this potential earlier. Many farmers are fully aware of the potential of irrigation for their own production, since it would simulate the former natural flooding regime, but have been unable to obtain the means to carry out irrigated farming. The example of irrigated development at the Volta Lake cited above at least indicates dangers in the presumption of the 'conservative peasant' incapable of adopting new methods. Individualism is a separate issue which may impose more real limitations on a form of technical innovation where some co-operation is essential.

b. 'Oyster' fishing

The oyster collecting industry has provided a valuable activity and source of income for women on the Lower Volta for some decades. Predictably the Dam has affected the industry but has not destroyed it: as with fishing the focus of activity has been relocated.

In 1964 the industry provided the main occupation for up to 2000 women in the area. No more recent count has been made but numbers have probably declined due to women's role in fish processing and trading on the Lake as well as in domestic activities. Oyster collecting nonetheless confers a valuable degree of independence making it an attractive activity and source of income. Many of those involved are young and unmarried but others include wives of polygamous husbands fishing on the Lake and accompanied by one wife, as well as others where all family members have

stayed in the area. Income from the industry is used for domestic purposes, for looking after those children not on the Lake, as well as for personal consumption, buying cloth and so on.

Since the Akosombo Dam was closed the oyster beds have moved downstream, local opinion attributing this to weed growth making the river bed unsuitable. Scientific opinion considers shifting of a critical water salinity boundary to be another influence. The main beds are now upstream from Ada and are visited annually by women from upstream (Battor, Mepe and nearby villages), some going in late December and returning in July. Others with farms will not migrate for such a long time. Women who move set up temporary workcamps for the period away: they were accustomed to this when previously moving upstream to harvest their oyster 'farms', a journey some women still make.

Oyster 'farming' is a common technique developed by the women which, given suitable habitat, obviates the need to do all collecting at the main oyster beds. Oysters are collected and placed in shallower water with sandy or muddy beds, a fence normally being put round them to establish 'property' and ownership. Under these conditions, if plankton food is available, growth is more rapid. A number of women evidently have many such 'farms' in different places including the beds near Akuse at Volivoe, Duffor etc, which were important before 1964. Other farms are maintained around Mepe and Degorme but suitable areas are restricted and in these parts large oysters remaining from the old bed sites are extracted by diving to depths in parts reaching 4-5 metres. At the 'farms' the depth averages 2-3 metres. Experience and technique allow women to continue diving for hours at a time and for many years: women aged 50-60 continue to be involved.

Oyster 'farming' is not practised in the present bed site where collection is for immediate marketing or consumption (except for those taken elsewhere to be 'transplanted'). Local demand has probably risen substantially due to the decline in fish availability; the protein content of oyster is quite high but traders' preference for sending smoked oysters to larger urban centres has raised prices for local consumers. Some of these traders are local women marketing their own or sisters' harvest, who

are reaping benefits from current high prices; these are sustained by shortages of fish. Those who have remained in the industry have therefore been able to gain from the changed economic circumstances and have again demonstrated the adaptability of indigenous activities. The additional attraction for women of economic independence from men has probably motivated many to continue. Where this is at the expense of labour input into subsistence farming the indication is that women prefer the money income which they keep for themselves. Under current conditions secure subsistence from own production is particularly desirable so that some reallocation of labour may occur; but while oysters continue to fetch high prices (and oyster 'farming' allows some control over supply) effort is unlikely to decline.

Effort is however traditionally regulated by 'taboo' days when, in accordance with the fetish, collecting is banned. These taboo days vary with the area: in Agave there is one taboo day per week, around Mepe collecting is only allowed on three days per week. There is also a taboo period of two months, September-November in Mepe, October-December near Ada. If these rules are broken popular belief has it that the harvest will decline, The taboo days have existed probably for as long as the oyster industry (whose origins and the source of its sexual exclusiveness were not revealed). Ecological changes do not seem to have caused modification of taboo days even if in some areas the beds have indeed declined. Those in the older sites who do not practice 'farming' or migration get less than previously from diving: they claim a ten-fold decline (1-2 buckets per day compared with 10-20) although high prices (currently 8 oysters fetch C10) partially compensates. At this level, a monthly income of about C400 was estimated: those involved in oyster 'farming' and trading probably get substantially more.

c. Cattle Owning and Rearing: Adidome District

The plains on the east bank of the river north and south from Adidome provide good grazing land for cattle. In 1981 there were an estimated 21,564 head of cattle in Adidome District, these being the enumerated sum of 58 herd owners in the District. The majority are local West African shorthorns or Sanga cattle and a few Zebu are also present. This area and

part of the Accra Plains on the west bank constitute the second largest cattle rearing region of Ghana after the north. Yet many of the cattle are owned and reared by people who appear to have relatively little knowledge of or interest in scientific principles of herd management. The issue of motivation in owning cattle then becomes important.

It is clear that in this area investment of surpluses in even a few cattle is profitable. In the village of Achenfo near Adidome, best-known for weaving skills, surpluses had been widely used to buy cattle. There are 11 kraal owners in the village alone in addition to others with a few cattle who lodge their herd in the kraal of a larger owner. The advantage is fairly apparent. If no disease outbreaks occur the herd will multiply giving a respectable return without effort. Cattle represent firstly a bank, expected to yield greater return than actual bank deposits (if such a facility existed); secondly, they are a source of security: if funds are suddenly needed part of the herd can be sold, currently at a considerable price, reaching C11-12,000 for good quality adult cows.

Cattle sell at a high price and it is not at all easy to buy them. Most herds were probably started off some years ago or at a time of high incomes and low cattle prices. Strategy is to allow them to breed with occasional take- off from the herd of barren cows, bullocks and adults when funds are needed. In recent years outbreaks of anthrax and rinderpest have both been experienced; where herds are thus decimated owners will try to restock, but prices are high and there is no system of cattle insurance. Susceptibility to disease is not surprising, for few cattle-owners give preventive veterinary care to their herds but wait until disease strikes. Local Government veterinary services no longer stock medicines which have to be obtained privately, if possible, from Accra: a journey small owners especially find a burden and which will likely be wasted. Anthrax when it last struck was finally controlled as imported medicines became available to the veterinary service but many owners had by then fallen back on the knowledge of local Fulani herdsmen whose technique, recounted with some wonderment, apparently worked - and for which they charged C1000 per kraal.

Many kraals comprise animals of the kraal owner and at the least one other cattle owner. In the latter case either owners may be resident

owning only a few cattle, or else they may be absentees, living in Accra or elsewhere. Separation of ownership and daily management has necessitated institutional arrangements and payments of various kinds. There are also specific payments to be made to herdsmen and sub-herdsmen which have been developed over long periods and are presently being partially modified to match changing conditions. These issues are considered below.

Where a cattle owner is an absentee putting his herd under another's management the kraal owner is rewarded in two ways: he gets 20% of the sale price of cattle sold, the cattle-owner deciding when to sell, and in addition he receives the second-born of any female cow. The latter is a recent change; previously the third-born was given. The revision supposedly reflects increased responsibilities and costs of herd management: stealing is quite common and not easily controlled on extensive grazing lands, while costs of veterinary treatment must be borne by kraal-owners. This revision at first sight appears to make little difference except in giving a more immediate return to the Kraal- owner and guarding against untimely death before delivery of the third-born. There would be a much clearer benefit if a calf was taken every second birth but this apparently does not happen.

Kraal owners themselves are rarely responsible for daily management, but rather engage Fulani herdsmen or local (Ewe) 'cowboys' for this purpose. Kraal owners are of course also cattle owners; no cases were found of individuals merely hiring out a kraal without also owning some cows, but their herds are in many cases primarily investments in a relatively secure asset: they are not objects for the owner's time to be spent on.

The Fulani are the acknowledged experts at handling cattle; yet it is probably a minority of Kraal owners who employ them, for two main reasons. The first is the reduced numbers of Fulani in SE Ghana, the second the suspicion that they steal cattle or at least connive at such activities. It is noticeable in this area however that the northerners (the Dagbani) resident in Adidome are the main employers of Fulani herdsmen, there being mutual and common language between them. Other kraal owners usually take on young Ewe boys as 'cowboys'. These boys receive food and lodging and, at the end of apprenticeship, one female cow. The period of contract,

previously six years, was recently reduced to four to counteract the increasing difficulty of getting boys most of whom now attend school.

The Fulani constitute an enigmatic presence. Some have been in Ghana for decades; the ageing head in one settlement has worked there for about 30 years. Ambition to go home is muted; their main motivation is to look after a cattle herd. With such an outlook the Fulani appear to have relatively little concern for financial rewards or even to start their own herd (the old man was reputed to have two cows after his thirty years' stay). Most do not receive a cash wage, although one enterprising local cattle owner had to pay his Fulani, believing this would provide incentive to managing the herd better and would remove any temptation to stealing. The Fulani talked vaguely of receiving C200 per cow sold, this was not made clear. Their main source of income however is from the sale of milk and cheese ('wagatchie') made from it. The Fulani are the only herdsmen milking cows: this system between northern (Dagbani) cattle owners and Fulani herdsmen resembles arrangements in the semi- arid grazing territories to the north where Fulani are most numerous. Other owners appear to be uninterested and local 'cowboys' unable to milk. Owners justify this by pointing out that calves are, thus, deprived and weakened; the enterprising owner mentioned above allows 'his' Fulani to milk selectively, part of the herd at a time. It is not clear if Fulani themselves voluntarily do the same: probably they do since their main aim is to look after the health of the herd. The kraal system hinders this objective although the herd is grazed for about twelve hours daily, returning for milking in mid-morning. Few owners, with one notable exception, have large enough herds or enough land to introduce a paddock system but Fulani are practiced in finding good grazing sites to raise milk yields. The breed of cattle also affects the latter, zebu giving at least twice the yield of local animals.

Milk yields fall off and milking ceases in the dry season (roughly November-March) at which time Fulani seem to have no source of income, except rarely when cows are sold. At this time their 'employers', and some Fulani have more than one, help them out with grants of maize and gari. In a rather loose relationship cattle owners are expected to donate food from time to time but seem to give little outside the dry season; the Fulani make little effort to grow their own crops.

This picture of a group of people dedicated to rearing of cattle to the exclusion of thoughts of acquisition does not square with allegations of stealing which many local cattle owners level against the Fulani. Stealing and rustling are undoubtedly good business - the Togo border is not too far away - and recent times have seen an upsurge in line with very high demand for cattle. It seems unlikely that Fulani would engage in such business: some alledge that rather they turn a blind-eye to Hausa men who are the real culprits; it would be necessary to see which herds have suffered the most before drawing any such conclusions but the allegations may derive largely from prejudice.

If Fulani indeed harbour few sparks of acquisitiveness this explains their readiness to stay away from their homes sine die and to live in very modest low-income conditions. Those with children are reluctant to send them to local schools but it is not clear that this new generation will continue into the same activity. Some Fulani evidently came south without their wives leaving the family at their homes in Benin, Niger, Upper Volta etc.

Fulani management extends beyond daily herding to veterinary practices and longer-term herd improvement. Most Fulani have their own methods for dealing with disease outbreaks and in a condition where Government veterinary supplies are unavailable this knowledge is especially valuable and evidently still used (as in the anthrax outbreak discussed earlier). Fulani themselves claim to consult owners and to take second place to veterinary officers, at least where diseases are serious. Buying and selling for income and for improved herds are decisions for owners who consult their Fulani closely. No definite strategy could be found in discussions, except for rapid sale of barren cows and desire to get good bulls to service the herd (there is a nearby scheme to develop improved breeds), which strengthens the impression that many owners invest in cattle for security as well as - now - respectable rates of return. Few owners seem to buy cattle once the herd is started except where disease has decimated it: and then only if the substantial funds needed can be raised. This situation may well change under stimulus of very high prices and pressure to sell. Cattle trading is wholly controlled by Hausa who now constantly visit the area from Accra. Livestock are taken to the Ashiamang

market outside Tema which has sprouted, in significant contrast to activities in Tema itself, in recent years. Any attempt by owners to sell to non-Hausa is resisted and most content themselves with being saved costs and inconvenience of transport.

Cattle owners are businessmen, truck drivers, weavers, fishermen, farmers and so on. Examples of those for whom ownership is the main business are sufficiently rare for one case to be worth describing in more detail. This man inherited five cattle from his father 30 years ago and bought another 10. From this initial level he has built up his herd to be probably the largest in Adidome District. Officially counted as 262 in the 1981 Census ownership is reputed to be a few thousand kept in various parts of Volta Region and, more recently, on the west bank of Volta Lake.

The ultimate motivation for building up such a stock seems to lie in dedication to virtues of hard work and efficient management. This scale of operation , regarded as improbable in a poorly-educated man, allows him to be generous in distribution to numerous family members (he has seven wives). He gives cattle quite freely to relatives prepared to rear them with exhortations to careful management; but operates the sharing systems previously mentioned. One further feature of family involvement is his employment of his own sons as 'cowboys', each serving for two years before being sent to school and replaced by the next in line.

The extraordinary growth of his herd is due mainly to careful and innovative management as well as to his motivation for hard work. He has obtained control over a few hundred acres of land part of which is fenced into four paddocks providing permanent grazing and thus overcoming the drawback of using kraals. He also manages to procure medicines for preventive treatment which few other cattle owners in the area concern themselves with: this provides one explanation for their failure to expand to a comparable extent. His wish to adopt new methods casts him in a mould as a Ghanaian 'improver': amongst his efforts have been use of an imported spray dip tank (immobilised when the water pump provided from the nearby Adidome State Farm went out of action) and use of artificial insemination to cross local breeds with an English-bred bull. This experiment was tried on two cows with some success.

The limits to this man's actions are externally imposed and do not derive from the innate conservatism assumed of illiterate rural populations. The attempted innovations mentioned above have been interrupted by lack of necessary imported materials; his ambitious plans for further expansion, involving the cultivation of 336 acres, have been further hampered. Such a scale requires a tractor which he has so far failed to get. Currently his cultivated land is only 16 acres (mostly maize) for which he hired tractor and labour.

Such an individual may be unusual in Ghana, although there are large 'elite' farmers taking advantage of high positions in bureaucracy, and the value of detailing one case thereby diminishes. Enough examples are known however to strengthen the hypothesis that Ghana's crisis is largely a crisis of the urban 'modern' economy and its participants, but which does increasingly impinge on rural communities in various and sometimes unanticipated ways. This one case also underlines the agricultural potential which successive externally-sponsored projects have conspicuously failed to realise throughout the depressing recent history of Ghana's 'development'.

d. Cloth weaving

The village of Achenfo two miles east of Adidome exemplifies the high degree of specialisation by community; diversification within households is found throughout SE Ghana. The principle of production is based on exclusive command over physical resources or skills which effectively rule out competition. No formal or magical rules are then needed to exclude others; strangers can reside and learn the skill by apprenticeship over several years - relatively few do so.

Where production is thus limited there is also a principle of exchange: there must be a level of demand to sustain specialised activity which at the same time is not fully absorbed by mass products, often imports of standardised production techniques. In the case of certain items of domestic village use (eg. farm implements, cooking utensils) there are some signs of a return to locally-made artisanal products of smiths and potters, ie. substitution for mass produced articles no longer readily

available. Cloth produced by weavers at Achenfo is partly in a different category meeting the need for high quality Kente particularly for ceremonial wear. But the implications of continued shortages of factory-produced lower-quality cloth suggest production could adapt to satisfy the larger demand. Substitution may also occur in production particularly in relation to sources, currently foreign, of raw and spun cotton.

The skill was developed in Notsie, one of the settling places in Togo of the Ewe as they moved west. Only a few villages in Volta Region continue to weave on any scale, these being founded by different migrants from Notsie. In early times all processes including growing and spinning of cotton were carried out in the village, the spinning particularly by aged household members. Weaving was on a simple horizontal loom. In the 1830s the source of yarn altered when the British colonisers gained some control, supplied yarn of better quality and also modified the loom. Dyes previously prepared from local plants were later replaced by chemical dyes.

Currently growing, spinning and dyeing are all performed outside but the weaving still has been maintained to the extent that almost every male child learns it. Women are prevented from weaving, the conventional reason is the unsuitability of the loom for pregnant women but possibly it was the development of weaving for cash rather than only for domestic use that signalled the dominance of men in the activity. Until quite recently a young man unquestionably followed his forefathers into the dual activities of weaving and farming; now there is a desire amongst some young people to have technical qualifications and to see weaving as a secondary occupation, although one which, under current economic conditions, would probably remain the main source of income, and one which they all continue to learn.

High prices are fetched for good quality Kente cloth, in 1982 about C500- C1000 for a female cloth and C2000 upwards, varying with quality and manpower exerted, for male cloth. The previous year prices were higher due to high cost of imported yarn, indicating the degree of involvement of villagers in the cash economy. Production of the family's food requirements gets equal priority however and leads to the dual pattern of farming and weaving. Cash surpluses from weaving tend to be spent on

ceremonial and other consumption, house-building and cattle, the latter being very popular in the area. One man recognised as the most skilful weaver owns about 70 cattle with another 80 belonging to others kept in his kraal. He seems more typical of local kraal owners (there are 11 in Achenfo alone) than the man discussed at length above in paying little attention to improved herd management. When veterinary supplies are scarce the scope is admittedly limited: local veterinary officers are said to spend more time with big owners who rely primarily on natural reproduction and only limited disease losses for any expansion.

Farming and weaving do not compete for time in any critical way. During the peak season for land preparation (April-May) farming receives priority: but larger families can continue both simultaneously; individuals may farm in early morning and evening, and weave in late morning and afternoon. Most cloth is woven to order and the time a particular piece will need is well known to the weavers. The most elaborate piece had taken almost six months' labour but simple female cloths can be finished in 2-3 days. Material cost, manpower and a profit enter into the price asked. The profit is not considered big enough for full specialisation: all families also do subsistence farming since weaving income is sporadic as well as inadequate. Weaving, it was expressed, is a 'hobby': in some way not to do with the serious business of ensuring subsistence from self-labour yet still work on which a man might be engaged for up to 10 hours in a day. The meaning of 'hobby' is more in reference to a unique skill which weavers have and indulge to their advantage: subsistence is ensured by the labour - 'manpower'- of farming, not the skill of weaving.

Weaving is evidently family-based but awareness of high costs of raw materials has encouraged thoughts of forming a co-operative for buying and selling, Currently yarn is obtained from Agbosome where a specialised cloth market has developed: the yarn is sold at retail and consequently higher price to the weavers. Natural suspicion of co-operatives has hindered such a development; selling also is traditionally the individual's business, partly a function of the system of making to order. The desire to weave with good quality yarn may nonetheless act as stimulus to an attempt to find other avenues of supply.

Conclusion

Construction of the Akosombo Dam disrupted the cycle of economic activities previously developed to exploit the Volta river regime. In most cases however the response has resulted in higher income levels due to the prolific Lake fishery than were being previously enjoyed. The major expansion in house-building in lower Volta villages was one consequence.

Adjustments to changed conditions have included large flows of remittances from migrants which to some extent compensate for lower incomes gained from reduced level of economic activity in the area. Some families have already suffered absolutely and the larger settlements have declined socially due to demographic imbalance. The spread of bilharzia in the area has caused further deterioration.

Away from the river however, particularly on the east bank, exploitation of local resources and skills has allowed communities to develop activities over and above production for subsistence. The latter is given high priority but in some cases the scale of activity for sale implies a high level of wealth, particularly under current market conditions. The present state is nicely exemplified by a Chinese-assisted scheme to grow irrigated rice at Afife north of the Volta delta. The scheme is scheduled to cover 2,400 acres, each farmer involved receiving one acre and all land preparation and sowing being carried out by technical authorities. Inputs are supplied at subsidised rates and farmers are only obliged to cultivate, harvest and supply 180 kg. of paddy to the state, the rest to be marketed privately. Proximity of the Togo border suggests an obvious outlet for this surplus as is candidly recognised by the scheme managers. It has been observed that the farmers themselves regard rice as a cash crop, producing subsistence crops in addition. The dilemma for the state lies in how to obtain rice without destroying the farmers' interest in it: their solution, under current national economic conditions, may show realism hitherto lacking in relations between state and peasant.

Introduction

The Volta Delta has become well known for its intensive shallot cultivation which makes maximum use of the strip of land between the sea and lagoons. In view of the strong commercial basis of this indigenous activity the response of Anlo shallot farmers to national economic recession was considered a particularly important aspect of the overall survey, firstly because many commercially-based activities in the 'modern' sector have practically ceased to function and, secondly, because the groups most vulnerable in recession appear, at least in urban areas, to be those without immediate access to means of subsistence.

At first sight shallot farmers have also forsaken the chance of meeting subsistence needs from own cultivation; but current population densities suggest subsistence would not be possible. Prices and availability of subsistence food crops may nonetheless influence growing decisions; one focus of attention was on the apparent impact on production of shifts in relative prices.

Adjustment to ecological and social conditions has been seen as the primary motivation for the variety of arrangements concerning land distribution. Changes in these were studied particularly closely for any indicators of shifts in social and personal relations to land, which are partly a reflection of social and economic circumstances.

Shallot cultivation may be the best known but is far from being the only activity on the delta. The theme of local resource-based economic activity is continued here, but Anlo Ewe are also quick to move in search of other opportunities if current conditions no longer support them. This is shown in extensive movement of fishermen along the coast to Abidjan and beyond and, now, in signs of a return flow from Accra-Tema to the local

area.

Shallot farming: aspects of production

The origin of shallot cultivation in the delta is not known: some believe shallots were introduced from Anecho in Togo around 1800, others that they came about 1850 from the Agbosome area north of the lagoon belt after reaching there from Togo. Shallots did not dominate local production until the 1930s in the wake of wilt disease destroying coconut palms and low world-prices for sugar. Demand for local shallots was found to be high and expanded via the medium of traders attending Keta market. Thus an ecologically viable system evolved capable, by intensification, of supporting the high population densities now found along the narrow sandbar from Denu to Anyanui in the west (Map 3).

The cultivation system resembles intensive market gardening. The shallots are grown on artificially developed beds built up with sand and occurring in two main locations, in coastal depressions and on the lagoon side of the sandbar. Within those areas variations in elevation and moisture holding capacity have fundamental effects on the seasonal pattern and risks of production and on other crops grown with shallots.

These micro-ecological variations are largely responsible for uncertainties in descriptions of growing seasons, some observers discovering three seasons, others up to five plus some 'mini-seasons' to account for unexplained variations. This lack of clarity poses problems in assessing recent changes but undoubtedly the system is adaptable and certain adjustments have been occurring.

Most accounts by current farmers indicate four main growing seasons but while few areas are used for all four, many can be used three times. The constraint is not soil fertility which is built up and maintained by heavy applications of manure, and since mid 1960s also by chemical fertiliser; nor is it labour although hired labour is in short supply. The main difficulty is 'agro-climatic' variability presenting a wide range of soil moisture and temperature conditions over the year. These can be stated in terms of the four main seasons identified:

(1) 'Fedomi' (literally 'mid-year', the Anlo calendar commencing on 1 July). This crop is sown in January during dry season. All crops mature in about eight weeks from sowing. Dry weather necessitates constant watering (twice daily) carrying water by bucket from wells sited amongst the beds (one well may serve three beds depending on their size and water table level). Sandy soils, particularly, need very heavy watering and major labour costs may be incurred here if family labour is inadequate.

(2) 'Fengue'/'Fenu' ('before close of year'). These crops are planted after Fedomi but prior to the monsoon and are therefore considered as part of the same season. Formally Fengue is planted in April, Fenu in May (with some flexibility considered later), the difference being due largely to soil and rainfall factors. Fenu-growing areas generally have loamy soils and are of higher elevation allowing the shallots to tolerate heavy rains from early June (expected start of the monsoon); Fengue-growing areas are lower with sandy soils and can withstand some rain. May showers, not in excessive amounts, are required for a good crop (they failed in 1982). The distinction is less clear on the lagoon side where the quite sharp break between Fengue and Fenu crops is not marked by any obvious changes in elevation and soil type, and sharper in the coastal depressions where excessive rainfall will flood the Fengue crop (which may be sown in mid-March if possible) and a Fenu crop cannot be grown. Flooding did occur in 1982 resulting in the remarkable and unfortunate coincidence of serious crop damage occurring at about the same time due to floods and to drought in places barely one mile apart. This gives the clearest indication of the sensitivity of the system to natural hazards and the consequent risks involved. The farmers, more aware than anyone of this, have evolved ways of offsetting or recovering from risks which so far have largely excluded 'modern' institutional arrangements. These are described later.

3. 'Vuvo' ('cold season'). This crop is planted in July and August in the post-monsoon cool climate. The air and soil temperature at this time is thought ideal for shallots but monsoon flooding necessarily limits cultivation to highland. These areas are normally used only for the Vuvo crop being at other times too dry and are otherwise planted with cassava. This is however a valued crop giving high yield and good seed; farmers consequently try to get some beds to sow Vuvo, using seeds grown on other

beds usually in Fedomi season.

4. 'Kele' ('summer'). This crop is probably more widely sown than the others, planting time generally being from late August throughout September. At this post-monsoon time sandy lowland soils have dried out but soil moisture remains and beds need little watering. All lowland is generally suitable and the area sown largely depends on how much seed is available. Seed for Kele comes from the Fengue crop and, occasionally- as in 1982 due to poor yields from Fengue - from Fedomi. The latter can be stored for upto a year without too much deterioration in contrast to Fenu seed which may last less than three months.

These remarks merely hint at the factors needing to be considered in shallot cultivation. The physical techniques are learnt as a skill from an early age. Bed preparation is an involved exercise requiring much care for good results; seed selection too is a major component. There are, too, broader issues, particularly in matching beds to seeds available over the different seasons. At this point technical, social and ecological factors combine to produce a particular distribution of operational holdings which may change the next season. As a general strategy farmers try to work on beds in different growing areas since (i) it spreads risks of crop damage bankrupting the farmer, (ii) it evens out demand for labour and market supply of shallots (iii) it allows seed to be transferred around different land types which apparently helps maintain seed quality.

Much depends then on land ownership and its distribution. A majority of adult males have some land (or work for their father) but a few have very large holdings relative to population density in the area. It was necessary to develop indigenous institutional ways of redistributing land to allow smallholders or landless men to cultivate. This method has been preferred and is more socially acceptable than continued expansion of a small minority depending for labour on those without land. This is not to say that such a pattern does not exist, rather it is not a conspicuously growing trend since ability to expand is limited - as discussed below - while social organisation and ethos permit general access to land through various mechanisms.

Shallot farming: institutional features

Land ownership amongst the Anlo is vested in the clans of which there are fifteen. Clan land is normally only cultivable by members of that clan. Usufructuary rights and right of inheritance lie with individual families within the clan so that the family or individual is the effective unit of cultivation.

Although some land remains uncultivated there is usually a good reason for it, either it is too high, susceptible to flooding or too saline, i.e. most cultivable land has by now been developed. Making sense of current distribution would require discovering how the operation of inheritance and land sale has modified original distributions traditional authority structure: chiefly families would normally have the most land and could be relied upon to maintain that position. Partible inheritance, despite adjustments in that system, must have nonetheless had a major impact in altering distribution. Land sales flourished only briefly, apparently from about 1950 when people optimistically headed for the towns. No such feeling prevails today and no-one is selling (Much land sold then was undeveloped duneland: a few big farmers took the chance to excavate depressions and create shallot beds).

These various processes have led to quite major variations in landholding size. Larger landholders (those with more than, say 500 beds) rarely have control over enough labour to cultivate all their beds which therefore become available for renting. Those farmers with relatively few beds who want more and have seed are able to hire beds of 'surplus' farmers under a number of renting systems. It is probable, and research showed this to a limited extent, that beds are rented out to kin or lineage members where possible but strong consideration is also given to the tenant's ability: young men in particular without their own land have to show a good return to keep a tenancy.

There are two major tenancy systems; according to one, a fixed rent per season is paid (known as 'bodada'), the rate varying with bed size and land quality (in 1982 ranging over C20-C60 per bed) and tenure is reviewed every season. The second is a sharecropping system ('dame' literally 'sow

and divide') operative for varying periods in which the shallots are marketed, tenant's operating costs deducted and the net proceeds shared equally between owner and tenant. This second system is favoured by owners unlikely to cultivate their beds themselves in future as it generally implies and invites more commitment by the tenant. Tenants looking for security are therefore likely to prefer this system although if yields are good their expected net profit would probably be greater under 'bodada'. One of the complexities of the system involves how much seed to store and how much to send to market: the sharecropper with a bad harvest is placed in a particularly invidious position since he may prefer to keep the whole crop for seed but feels obliged to give the owner some return. This is a quite common event and as a result longstanding 'dame' tenures (10 years or more) are quite widespread waive the normal share to safeguard future returns.

There is another system illustrating the attempts to make maximum use of the land resource. In this case (named 'fame') owners with inadequate seed may allow their surplus beds to be used by owners with surplus seed, the latter sowing and harvesting, the former doing land preparation and cultivation. Proceeds are shared either equally or 2/3 to the seed-owner before deduction of expenses. This is essentially a short-term sharecropping system.

A further important mechanism of redistribution with more fundamental implications lies in the mortgage system which is also the main source of credit in the Anlo area. Known as 'woba' this involves pledging of land in return for a sum of money; the land is held and cultivated by the pledgee until the pledger can redeem it by repaying the loan. The pledgee's right of cultivation represents the interest on the loan rather than land being held as security. Inability to repay therefore benefits the pledgee who may cultivate such land for several years.

Apparently the system is a means by which farmers can expand the number of beds under their control. Accumulation on a grand scale is possible: one man cultivating over 300 beds reckoned 191 of them were obtained by 'woba'; another with about 450 beds had some 300 under this system. The scale of this cultivation relies partly on inability of pledgers to redeem their

beds rapidly. The pledgee gets a right to use the beds for a minimum of one season but cases are known of beds unredeemed at their owner's death. Large-scale operators also appear to have developed a reputation for fair dealing and therefore attract many customers requiring loans: this is in opposition to moneylenders (charging 50 per cent over six months) and inflexible banks.

Those requiring loans include small farmers whose crops have failed and who require loans for production and consumption, and also bed-owners raising money for other business, particularly fishermen. The risk for the farmers is that cultivating fewer beds itself handicaps their chance of recovering from poor harvests although they may in any case lack the seed to cultivate all beds. This appears to be a mechanism by which land is transferred from small to big farmers: one informant stated ultimately beds held under 'woba' for many years would be sold outright to the pledgee but the occurrence of this is unknown and would require very thorough research to detect. Nominally at least the beds always belong to the original owner or his family: it is debatable if they would have the right to sell,

Current mortgage rates quoted varied over a range C200 to C500 per bed; this compares with the range of C10-C20 given by Nukunya (1975) writing 10 years earlier which he stated roughly matched the sale price of beds. The steep fall in monetary value of the currency should have given a chance to redeem beds mortgaged in the past: current rates will more likely match inflation.

The difficulty of redemption has led to an alternative system developing in the last five years, whereby a landowner gives his beds for a fixed period in return for a sum of money which he does not have to repay. At the end of the appointed time his land is returned. In a sense this system is a long-term, fixed-rent tenancy arrangement but in practice it was described as an alternative to 'woba' as a means of raising cash. 'Woba' gave too much benefit to the pledgee if land could not be redeemed. This new system is apparently growing in popularity: it substitutes for the uncertainties of both parties involved in 'woba'.

All the above institutions have allowed constant adjustments to land shortage so that a dense population is adequately supported on naturally infertile land. The one incongruity in the system appears to be partible inheritance: by generation individual holdings get reduced in size until some are below economic levels. So far some adjustments have been made in this as in other respects. Families with much land probably tend to have had the most complete education. Certain members could leave the area for lucrative employment elsewhere, putting their share of family land in another brother's care. Allocation of a man's land after his death is a matter for his children and other senior relatives. He himself can only allocate his personal property, not 'his' land which ultimately belongs to the clan. He can encourage his children in other business as a means to keeping the land consolidated (the value of education is strongly recognized in Anlo District) but it is not his land and therefore not his decision to make.

Families with little land and few other opportunities face problems, partly met by continued availability of land for tenancy as large holdings remain reasonably intact. This seems to imply increasing inequality of ownership; whether this is occurring is not clear. An apparent trend is to reduce the land granted to daughters, the logic being that a girl who gets married will have access to her husband's land and does not need her own. Daughters are encouraged to marry within the clan or even within the immediate family so their land returns to grandsons of the original holder. The practical effect is to make more land available for men who usually make some agreement with their sisters to avoid later disputes.

In the long run the ability of social and tenurial institutions to adjust to increasing pressure must be doubted: but then the mobility of the Anlo themselves and their ability to seek out new opportunities suggests they will continue to follow a commercially-based way of life in and away from the delta. A current tendency amongst young educated men to return to the area from work in urban centres where living standards have dropped massively in the last few years demonstrates both their mobility and the continued viability of the shallot-based rural economy.

Shallot farming in the changing economy

The tendency to return to shallot farming reflects radically changing conditions in the economy and in particular in relative attractions of urban and rural employment. The index of average monthly earnings in the 'organized' (mostly urban) sector shows how rapid and catastrophic the fall in urban real income has been.

YEAR	AVERAGE MONTHLY EARNINGS		CONSUMER PRICE INDEX	
	Nominal index	Real index	General	Food
1976	100	100	56.7	50.5
1977	189	87	116.7	112.6
1978	198	53	243.3	212.3
1979	242*	42*	287.8	297.5
1980	359*	41*	540.6	510.8

* Provisional

The data makes clear the contribution of price rises of food and other commodities to this decline and suggests that the growers of food and/or traders face much more favourable terms of trade. Even these conditions were superceded by huge price inflation in 1981 when practically all commodity prices rose sharply.

Urban-rural migration cannot be explained solely in terms of relative prices any more than can the opposite flow. Lack of opportunities, real or perceived, and a sometimes stifling gerontocratic structure, combined with contempt for the 'primitive' methods of 'peasant' farming were all stimuli to migration from rural areas. This movement has itself probably contributed by its negative impact on agricultural production to the accumulated problems bringing the modern sector in Accra-Tema to the point of collapse and presenting almost unmanageable living conditions for salary and wage earners. Those now returning to villages may face similar frustrations, but the present study shows at least limited evidence of changing conditions to meet aspirations of educated young people.

Shallot farming is intensive, commercially-oriented and skilled: in these ways it is apparently distinguished from 'peasant subsistence

farming' which absorbs energies of much of the population. The skill lies both in the almost horticultural cultivation techniques and in (to use a conventional term) farm management, i.e., the organisation of shallot beds and of available seed, capital and labour to satisfy one's objectives. Flexible tenure arrangements allow adjustment of beds and seed and, importantly for young men without beds, give them an opportunity to farm. Hard work and a good yield are expected if tenure is to be retained.

All shallot farmers grow other crops, usually intercropped with shallots (except on highland where cassava grows alone) unless lack of seed or excessive drought prevents sowing. The usual intercrops are maize, okra, gardenegg, tomatoes, pepper, cassava. Typically these are planted about one month after shallots are sown to avoid overshading of the latter; shallots are harvested after about eight weeks leaving the other crops to mature. Vegetable crops are intercropped in Fengue, Fenu and particularly Kele; for example tomatoes are a favoured crop in Kele since market prices are high at the time of harvest (October- December) compared to better yields but low prices from the earlier Vuvo crop which has to compete with supplies from elsewhere. Accra is the main market Maize is intercropped with Fedomi, the main dry season crop, and with Kele, while cassava follows Vuvo shallots on highlands substitution of shallot cultivation by maize although most farmers have to buy at least six months' maize consumption requirements on the market. This lack of response may appear surprising but reflects farmers' commitment to a commercial exchange economy. Maize brought from outside is expensive due to high demand and transport costs. In December 1981 average retail price of a pan of maize in Keta market was C19.33, and in Kpando (central Volta Region) C8.00; compared to C5.00 and C2.00 respectively in December 1979. At times of regional shortage during the 'hungry season' (up to August maize harvest) cash income of shallot farmers enables them to outbid other rural areas which may suffer aggravated food deficits.

Demand for shallots has also been maintained and prices have risen accordingly. Seasonal variation is large: wholesale prices at Keta market were in the range C500 - C600 per bundle in August/ September 1981, C1000 in December 1981 and climbed up to C1400 by April/May 1982. Demand should remain fairly constant there being no other growing area in Ghana, so that

seasonal fluctuations reflect variations in supply while intra-seasonal price ranges result from major differences in quality and size of bundles. In May 1982 unexpected heavy rainfall flooded shallot beds in depressions; farmers planting early harvested in time, others had to uproot 5-6 week old shallots. Bundles comprising the latter weighed about 66lbs (many plants were totally destroyed) and would sell for less than C1000. Bundles of matured shallots weighed roughly 100 lbs the best fetching C1400 (average weights in mid 1960s were only about 25lbs). Risks of sowing at that time, only possible in the depression zone, were offset by the prospect of high prices. Readiness to take risks indicates the shallot farmers are far removed from the sterotyped images of conservative peasantry: they have their own safeguards, most also having beds on the higher lagoon side. No formal crop insurance schemes exist.

The image of conservatism also tends to imply unpreparedness to innovate or co-operate outside one's own family. The farmers have demonstrated their adaptability however, for example in adopting chemical fertilisers. These have replaced dried fish previously used as a 'top-dressing', largely due to the high price of fish, the supply of which is now fully used for human consumption. Some farmers have remained doubtful about chemical fertilisers after applying excessive dosages of sulphate of ammonia which scorched their crop. In 1982 fertilisers were in any case not available, although many farmers had stocks over from the previous year.

Organic manures remain the main method of retaining fertility on beds which are in almost continuous use. Heavy applications of cow manure are given prior to sowing; other manures from fowl and bats are also applied when available and legumes, beans, may be mixed in. These manures previously cost little or nothing but have now taken on economic value; bats' droppings now costing about C150 per bag, cow dung C26 per bag (applied at a rate of about one bag per two beds); while chemical fertiliser is sold at C25 per bag (one bag is applied per 30-50 beds). The organic manures are obtained especially from villages and kraals on the north of Keta lagoon.

Adaptation and co-operation are shown in the organisation of fixed planting dates for each season apparently to minimise pest attack. Growing in particular areas is co-ordinated to avoid destruction of young plants by pests harboured by more mature shallots. Farmers observed that a particular pest, 'yoe', attacks when the shallots are maturing (except in Vuvo which is attacked in early growth). Planting dates are fixed by senior, usually larger, farmers and amendments also announced by them. The latter generally allow extension of sowing dates if delay has occurred. Community pressure guarantees adherence to the dates whose purpose is accepted. The extent of restriction varies with the area. In some depressions the only requirement is to have all beds clear by25 December as climate and hydrology impose their own conditions thereafter; on the lagoon side, specific ranges exist for each season. There are signs of increased flexibility in these areas as yield advantages of certain planting times are recognized and possibly due to gradual introduction of chemical pesticides.

Co-operation is also required to dig out the main drainage channels leading to the lagoon since maintenance of the drainage system is essential. Individuals dig the furrows between their own beds, ensuring a barely perceptible slope to the lagoon, at the same time lining the sides with dried lagoon grasses to prevent erosion: slight convexity given to prepared beds has the same purpose. The main channels are dug with communal labour called upon by leading local farmers.

There are however limits to co-operation which emphasise an individualistic aspect of production. A traditional mutual labour system, 'fidodo', is no longer used, family and hired labour being preferred. Family members do not necessarily help if they have other activities or their own beds. A more recent attempt at co-ordinated marketing, dividing the growing area into three, each to supply Keta market on a different market day, could not overcome individuals' desire to take advantage of high market prices. The traditional position of wife or sister as market woman also inhibits such a development. Many women have specific customers to whom they sell coming from all parts of the country. Longstanding trading relationships ships both at Keta and in areas of final consumption, in many cases based on kin ties, would be difficult to replace.

A distinctively new form of co-operation, although not in shallot farming has arisen in connection with the return flows of educated youth to villages. A group of 13 young men including middle and secondary school leavers formerly working in Accra-Tema, have formed Woe Young Farmers Association (Woe lies about three miles east from Anloga) to engage in group farming. The group began in 1980-81 planting tomatoes on four acres of highland taken on 'dame' tenure from a fishing family for an agreed 10 year period. In 1981-2 they planted pepper. Their intention is to expand into large-scale, semi- mechanised farming outside the delta with purchase of a tractor if one can be obtained.

This activity has been aided by establishment of a Rural Bank at Dzelukope near Keta which shows fewer signs of the inadequacies generally displayed by banks servicing the rural sector. These include excessive collateral requirements,slow and inflexible procedures causing delays, contemptuous treatment of illiterate farmers, inadequate loans, and corruption. The new Rural Bank carefully checks applications, inspecting farms prior to giving loans, and requires borrowers to make a deposit into the bank. Many farmers claimed they were still unable to get loans but this may have been due to a distrust or a tendency to overstate sums needed. The Woe group has had assistance of C29,000 at 181/2 percent annual interest, which they have paid off, the outstanding surplus being placed in a Group account for future investment rather than for personal consumption. Each member also grows shallots individually, each receiving a C5000 production loan from the Bank. Group farming is performed once or twice weekly; hired labour is also used for specific tasks.

The apparently good relationship between farmer and modern institution is all too rare. A major component of the costs of shallot farming is new seed which comes from Agu (Togo) at very unfavourable terms of exchange. Farmers' representatives have asked successive Governments since the early 1970s to develop suitable seed within Ghana but apparently no attempts have been made. Farmers use experience and ingenuity to keep the seed succession going as long as possible. There is a wide range of about 3-12 years depending on quality. Replacement is costly, now C500 per tin, with about three tins used per bed for mutliplying. Seed is multiplied 3-4 times before any is marketed. Switching seed between depression and lagoon

side beds extends its viability. Some larger farmers also send their seed back to Agu for replanting and rejuvenation there.

The major contact between farmer and agricultural officer is for the supply and purchase of chemical fertilisers and pesticides. In 1982, when a new World Bank - supported project began to extend advice and services to farmers it happened that fertilisers were not available. This is almost the sole assistance that could be supplied or is expected by farmers whose knowledge of their indigenous technique surpasses that of extension agents. There may be little else to extend in shallot cultivation, with the possible but doubtful exception of sprinkler irrigation to relieve the tedious and costly operation of well irrigation, and financial services. Refinements of present methods may come with the influence of younger educated farmers, an example being recognition of higher yields from early planted 'Kele' crops leading to amendment of planting dates. Change generated internally is likely to succeed; that imposed from outside fails. Evidence suggests internal changes have occurred and are continuing in this system. Shallot-growing is both capital-intensive and labour-intensive: other crops need less money and less labour for cultivation. Non-labour costs basically comprise seed, manure and fertiliser and pesticides (only used by some farmers). These costs were mentioned above. Labour costs depend on use of hired labour: this varies greatly although most farmers hire labour at some stage. Labour shortage causes some farmers to use schoolboys; some larger farmers make contractual arrangements whereby the employer can request a man's labour when he needs it; the labourer, who may be farming his own land simultaneously, is then obliged to go. The obligation is not necessarily imposed by indebtedness; on the other hand the employer may be prepared to give loans to his employees if asked. Payment is according to the daily wages and may be made at the employee's choosing, an account being kept. Some large farmers are known to have granted a few shallot beds and given meals for the period of contract in lieu of wages.

Labour shortage is shown by current rates, C15 for four hours' work work in morning plus C7-8 for a meal; C15 for about three hours in afternoons. The prominent farmers attempt to agree on a rate they will pay after which there may be acceptance or bargaining. Big farmers state they adjusted the

rate upward in 1982 to take account of higher living costs. In fact a labourer will usually have another source of income or subsistence, his own shallot beds, work on fishing canoes or lagoon fishing, so the adjustment need not be precise, but enough must be offered to ensure the labourer will still work in preference to, say, lagoon fishing for his own family needs.

There is some sexual division of labour of unknown origin. Mostly it is men who do land preparation and cultivation; women carry sand and manure, do some weeding and harvesting, clean shallots to be ready for market and may also make bundles. Women have complete control over trading.

Labour costs vary with season, size of beds, yield and use of family and hired labour. In the dry season ('Fedomi') the heaviest labour requirement is for watering, necessary twice daily before sowing and throughout the eight weeks' growing period. Cutting of grasses and lining beds with the dried grass is only required in Fengue/Fenu prior to rains; weed growth tends to be less in Vuvo and Kele and labour required therefore reduced; weeding may otherwise be performed 3-4 times. Sanding, that is the building up of beds, has to be done after a few seasons depending on rainfall damage. Yields depend on the weather and on the application of manure and fertiliser. Some farmers vary applications according to the season, believing chemical fertilisers may scorch the crop if they are applied in the hot dry season. When beds are flooded, harvesting has to be done quickly and wage rates may rise at this time. It is when they have sustained losses that farmers are most prepared to specify their costs in detail. Floods in May 1982 caused crop losses in depression zones. Examples are:

1. Owner of 87 beds in 6 different areas: sowed new seed on 37 beds, flooded after 4 weeks - unsure if seed could be used.
Costs incurred (paid-out expenses) on 37 beds.

(i) Seed: 8 galls ea C480	= C3840
(plus old seed multiplied from 6 galls. sown earlier)	
(ii) Labour costs	
(a) weeding pre-sowing: 10 men each C35	= C 350
(b) digging : 6 men each C35	= C 210
(c) watering: 3 men (plus self) each C35 for 7 days	= C 735
(d) preparing seed: 5 women each C15	= C 75
(e) sowing: 15 men for 2 days each C10	= C 300
(f) 1st weeding: 10 men for 1/2 day each C25	= C 250
(g) 2nd weeding: 10 men for 1/2 day each %25	= C 250
(h) watering: self twice per day	
(iii) Manure, fertiliser	
(a) fowl faeces: 25 sacks each C48	= C1200
(b) sulphate of ammonia: 1 sack each C25	= C 25
	C7235

2. 36 beds flooded after 5 weeks (owner has about 200 beds in other areas)
Costs incurred on 36 beds

(i) Labour costs	
(a) land preparation: own labour	
(b) sowing: 30 men for 1/2 day each C23	= C 690
(ii) Manure, fertilisers	
(a) cow dung: 26 bags each C26	= C 676
(b) sulphate of ammonia : 1 bag and transport costs each C35	= C 35
	C1401

3. 84 beds flooded after 6 weeks

(i) Labour costs	
(a) hoeing : 3 men (plus self) for 1/2 day each C35	= C 75
(b) sowing : 30 men for 1/2 day ea C10	= C 300
(c) watering: family labour 2 times per day	
(ii) Manure, fertiliser	
(a) cow dung: 42 bags each C28	= C1176
(b) NPK : 1 bag each C25	= C 25
(c) Sulphate of ammonia: 1 bag each C30	= C 30
	C1606

The first example particularly shows the high cost of new seed and labour if family labour is not available. The importance of preserving one's stock of seed and avoiding spoilage is obvious.

Since risks are great, yield estimates must be viewed cautiously. Under favourable weather conditions yields over the year average about one bundle per bed per season: lowest yields are obtained in Fedomi/ Fengue; highest, about 1 1/2 bundles per bed, in Vuvo. Kele and Vuvo seasons yield the most marketable shallots, the other seasons being used more for seed production. The 1982 average price of a 100lb bundle was about C800: good weather allows substantial profit for those controlling enough beds which partially compensates for likely losses at other times. In terms of cost effectiveness and per acre returns, shallot cultivation far exceeds alternatives in the area: this accounts for the marked specialisation which continues even in present conditions of soaring food prices. It is yet to be seen if under these conditions high capital costs and ability to bear risk create a larger gap between big and small farmers, with the latter turning more to subsistence and agricultural labour, than presently occurs. Evidence suggests small farmers will resist any such trend by continuing to rely on institutional systems of tenancy and mortgage: land will remain available under these systems as long as they also meet needs of particular landholders. There are few contrary signs at present.

CONCLUSION

The specific social, economic and demographic conditions in the delta are rather unique but the principle ruling economic organization, ecological adaptation to physical resources, has been identified as a common theme throughout the communities studied. The shallot industry typifies this principle but it can also be observed in salt collecting, mat and basket making, gin distilling, lagoon fishing, etc. Sea fishing has become more capital intensive and dependent on external inputs but still represents development of an indigenous structure, particularly in regard to labour organisation and distribution between labour and capital to permit resource exploitation.

These activities have resulted in relatively high standards of consumption and expansion of economic activities amongst wealthier households. Substantial differences in wealth and income exist but poverty is avoided by a social organisation allowing practically all able-bodied persons access to means of production and a form of insurance if production fails. This flexibility is necessary for the existence of such a closely-interwoven community: though in certain characteristics unique it would be surprising if it is such an isolated case within the country. It would be valuable to identify and describe similar adaptations rather than to proceed from the presumption that they do not exist.

DISCUSSION

The structure of local economies

Economic activities in the study areas are resource-based: inputs obtained from outside tend to be minimal, with exceptions such as nylon fishing nets and yarn for cloth weaving. Resource-based activities are characteristic of much of rural society in Africa. Production is based on the particular knowledge and skills of producers developed in the specific environment and it is necessarily labour-intensive since the tools of production are generally simple. In the given technological and social conditions productivity depends largely on labour input and would be unlikely to increase greatly without an advance in technology.

Producers are usually the most knowledgeable about their own environment under these conditions. The primary object of production is to secure the necessities for subsistence and reproduction within the family and local society. The system of production is based on specific local knowledge and is oriented to those prior needs. The latter implies possible indifference to attempts by external agents to induce them to increase production in order to render up a surplus; the former raises doubts about the ability of outsiders without the same store of accumulated knowledge, to develop an improved system which would both raise production and be accepted by the majority of producers.

This need not mean exclusive attention to own production of subsistence crops, as examples from all three areas show. Resource-based production implies more than passive adjustment to environment: it involves taking advantage of the specific potentials offered in each area. Thus an element of specialisation enters production; and specialisation implies exchange. The clearest example lies in the shallot farming practised by Anlo farmers in the Volta delta. A combination of infertile natural environment and inventiveness of producers has brought about a finely attuned cultivation

system where special techniques are needed to maintain output and fertility. In this case, too, an element of cooperation is needed within the community although, as the failure of attempts to establish cooperative marketing has shown, it is not thought either necessary or desirable at all times. Although food crops are grown,most producers choose to specialise in shallot production, taking advantage of the monopoly position in which their specific knowledge and environment have placed them.

This is a case of adaptive behaviour: the system does not involve a transformation of the environment but a resourceful accommodation with it. It is however a development which may be poorly appreciated by those who look to 'the role of agriculture' in national economic development. The area does not produce an export crop to earn foreign exchange; and it has a food deficit which, through exerting superior buying power, it can alleviate at the expense of other, including urban, consumers. Yet this method is best suited to the needs of this densely populated area where traditional fallow systems cannot be followed and intensification has taken this unique form. Thus an apparent conflict of interests exists as it does between urban dwellers and rural producers in many areas. Resource-based production also requires few inputs from outside and rural producers generally form a limited market for goods produced in the modern economy. In certain cases, from shallot farming to weaving and fishing, purchased items such as fertilisers, raw or spun cotton and fishing nets have to be imported. This also implies need by producers for cash, but this is restricted in the weaving economy and Volta Lake fishery by complementary production of own subsistence crops. These characteristics indicate lack of integration of the national economy and therefore limits to national development. Producers in a resource-based economy use their advantage in acquired skills and knowledge to satisfy their own needs but not to meet the imposed needs of outsiders. They are aware that to abandon the relatively self-contained nature of resource-based production for one based on the uncertain supply of external inputs would reduce their independence vis-a-vis the state. Local relationships with kin and traditional institutions provide a more immediate frame of reference for most peasant households.

Local social and economic structures are attuned to the resource- based economy: the trading network in the lake fishery and tenure arrangements in the shallot industry are examples. Where an area is deficient in exploitable resources migration is a common response as in the lower Volta, but close connections are usually retained with the home area. In order to raise output significantly the state may have to reorganise production, as it has attempted in northern Ghana, by sponsoring large-scale mechanised rice farming. This has been an expensive exercise promoting considerable inequalities and social discord and not having an outstanding effect in terms of increased food availability. It is not clear that an attempt elsewhere would have different results or that the state can afford such a level of support. Local 'entrepeneurs' do exist; the migrant cocoa farmers, Anlo sea fishermen and cattle rearers on the Accra plains are examples, whose use of surpluses remains largely 'traditional', that is, primarily for maintaininq kinship relationships or the same area of activities rather than for saving and diversifying 'productive' investment. An expansion of output through such individuals may be more likely than by way of externally initiated 'rural development projects'.

At the same time producers are preoccupied with returns to their labour,'manpower' as they term it. The implications are uncertain: are they searching for a way to make the securing of subsistence easier by reducing labour effort, or do they want to produce more? There is a tendency amongst certain Ewe to emphasise hard work (and to denigrate others for laziness) but with clear expectation of reward. Where subsistence is not secured from own production, and practically all households must make some regular purchases, fluctuations in relative prices have an impact. One of two responses may occur if prices move against the producer: firstly, expansion of subsistence production: fishing families on the Volta Lake are doing g this; secondly, expansion of cash cropping to increase income as the shallot growers appear to be doing. In fact there is a third response: to do without the purchased good for certain items of domestic consumption, or in the case of chemical fertilisers, for production.

The majority of producers have neither the capital nor labour to expand to a large scale. Low labour productivity therefore persists. If capital equipment can be obtained, say an outboard motor for fishinq, or if

abundant family labour can be called on, then expansion is possible. Such cases were found, if not in large numbers, in the study areas: fishermen with outboard motors obtained through wealthy relatives; the family of twenty farming over 50 acres in the lower Volta; the cattle rearer with his herd of thousands; shallot farmers with over 1000 beds. It is probable that more producers would expand if they could but they recognise the risks in taking capital loans. As it is they use surpluses to support family subsistence and reproduction; building a house, educating their children, as well as further expansion of their 'business'. Improved returns would still represent returns to one's 'manpower': capital enhances labour effort. This is a clue to the individualism of peasant producers: ownership of capital allows one to claim the whole product of one's own labour; whereas hiring capital services, such as a tractor for preparing land, requires sharing the product. At the same time producers distinguish between income used to replace capital and that which rewards labour input. Thus a fisherman splits the gross return into parts for the canoe, the net and labour, but he is the owner of canoe and net and it is his labour that pays for them. There is therefore awareness of the increase in productivity resulting from owning capital but the capital is not an abstract thing. It would appear that a precise understanding of local categories of 'capital' and 'labour' is vital to appreciate prevailing systems of rewards and prospects for changes and for future investments by local 'capitalists'.

Relations between urban and rural areas

Rural-urban migration took place on a large scale in the post-independence years in association with both real and imagined expansion of urban job opportunities. Young people were encouraged to despise the primitive methods of 'peasant farming'. This view was apparently expressed not only in schools but also by parents themselves engaged in such farming. In part this may have been a deliberate inducement to educated children to strive for good urban positions so as to procure income and prestige for the village; less educated children could continue to work on the farm.

This movement may have contributed to the country's problems. Where land was abundant and technology simple agricultural output largely depended on how much labour was applied to land, particularly for clearing and preparation. In some ecologically poor areas such as the north-east, population pressure was a factor and migration possibly a relief; in other areas the absence of able-bodied workers could only have depressed output. The decline in national agricultural output shown by statistics (the World Bank report shows an average annual growth rate of -0.2% over 1970-79) is plausible on these and other grounds. The same report shows an increase in Ghana's urbanisation from 23% to 36% over 1960-80. A census scheduled for 1982 has been postponed and no national census has been conducted since 1970, so the 1980 statistic has presumably been derived from a projection. It is not known whether or not the trend has been reversed.

This pilot study deals only with particular cases and impressions. One impression which clearly needs to be tested is whether many individuals are returning to their home areas from urban centres where life, which was never very remunerative, is now scarcely supportable. A number of patterns are conceivable. Many urban migrants have retained close links with their home villages and relatives. People of similar ethnic origin group together within urban areas as Hart (1971) recounts for Frafra migrants from the north-east living in Accra. 'Successful' migrants have probably been outnumbered by 'unsuccessful' ones, the latter being unable to support the demands of expectant relatives and increasingly unable to support themselves and their immediate families. Faltering industries no longer provide secure work; public service employment is better protected but real incomes have declined by a hugh extent. Secondary school leavers and university graduates who saw teaching and the professions generally as a well-paid prestigious occupation have found the real value of salaries falling sharply and many have left the country. Employment in the public organised sector stayed roughly constant over the period 1974-80 while that in the private sector fell by about 20 percent. Demand for labour as shown by notified vacancies, fell continuously. Employees' average monthly earnings plummeted from (in indices) 100 in 1976 to 41 in 1980. The CPI over that period soared from 56.7 to 540.6 and the food price index from 50.5 to 510.8. In 1981 conditions worsened: the average urban wholesale price of a bag of maize stood at C711.05 (with a peak of C1414.21) compared

to the 1980 national average of C413.31; corresponding figures for rice per bag were C1074.74 (peak C1426.9) compared to C763.3 and for yams (10 tubers) C1995.29 (peak C3277.77) compared to C875.34. The tripling of minimum daily wages from C4 to C12 in October 1980 merely fuelled this staggering inflation. The majority of employees, about 75 percent, were in the public sector, in faltering industries or in public service. The decline in output, with GNP falling in constant terms by 6.3% over 1974-78 and more steeply thereafter, suggests that even this level of employment and remuneration could not be long sustained. Economic disincentives to remain in the town are clear enough, but in some cases factors causing the original emigration from the rural areas remain: poor ecological conditions, limited chances for improvement within the 'peasant economy', the gerontocratic and kin-bound social structure. Where urban employment was a genuine relief of pressure a migrant may be reluctant to return whatever his urban living standard. On the other hand, village social structures may have been an impediment more imagined than real; they are not wholly escaped even by rural-urban migration and they may themselves change as urban-rural migration occurs.

Some urban migrants must now rely on their rural kin for food, a reversal of the original intention. This pattern is unlikely to be considered acceptable for long unless the urban migrant can give something in return. Four brothers in a driving business in Accra who financed their father's expanded farming in the lower Volta and received a share of the crop provide an example of a mutually accepted relationship Accra. Low income migrants on fixed wages can do neither and must take on additional work or move into trading, petty self-employment in the informal sector or crime (Hart 1973) or else return to their villages.

Opportunities for the urban-rural migrant who has returned empty-handed from urban areas vary according to family circumstances and previous urban employment. Those trained as teachers and who continue their profession in a village school may be valued more highly socially than blue-collar employees, but their salary remains inadequate and part time farming becomes both possible and essential It is possible that returning migrants bringing an attitude of frustrated ambition may remain frustrated if land and capital are not available. Where there is spare

land and lineage-succession does not block its use the current terms of trade favouring food crop production encourage the application of labour to increase output. There is even a possibility of harnessing group labour for this purpose as shown in the readiness of young farmers in the Volta delta to migrate in search of land for group farming. Tools of production are scarce, however, and access to mechanical power is limited.

Urban-rural movement is having a profound impact and may signal either hope for the state or a further negation of it, either transformation of village structures or their reinforcement. The potential which exists in rural areas and no longer in the cities and which was widely neglected and discounted after independence, may now be viewed differently.

Government agencies have impinged, apparently adversely, on the cocoa sector. Their impact elsewhere has not always been beneficial. In Volta Region, resettlement villages for the 80,000 inhabitants of the flooded Volta Lake area have in general not fulfilled the original objectives. More recently attempts to rejuvenate agriculture have been sponsored by World Bank projects to rehabilitate cocoa and to reorganise the Ministry of Agriculture in Upper and Volta Regions to 'help the smallholder'. It remains to be seen if the image of small- holders motivating these projects leads to measures which they them- selves will accept as helpful. At present the Volta Region project emphasises raising of per acre yields over five or more years through experimentation and extension. In the Volta Delta extension workers have found little to extend in an area where local specialised knowledge is crucial. Elsewhere in the region they have hitherto shown little interest in reaching farmers. The lack of response to cassava disease affecting much of the region in 1982 illustrated the gap between peasant farmer and extension worker; similar gulfs appear to exist between officers in fisheries and livestock veterinary work and producers under their respective charge. Mutual lack of interest characterises this relationship and must be transformed if programmes of state and development agencies are to have a broad beneficial impact.

The pilot study noted the efforts of several individuals to raise their economic activities above average levels. Some, such as shallot farmers, had an advantage through inheriting productive land. Others, including fishermen and cattle rearers, had prospered within their own lifetimes usually with the support of borrowed capital and labour from large families.

It is unclear, but of potential importance, how general is the desire to expand in this way. Growth in the Volta Lake fishery was facilitated by the role of women traders providing fishermen with nets. There is a debate over the element of exploitation involved in this relationship but for both it had mutual benefits and local arrangements were again shown to meet a need in a way which official institutions, the banks, could not.

Future financing may depend on use of surpluses from production. Cocoa farmers used income to expand their cocoa lands but were reluctant to diversify into alternative business. Income is mainly spent on supporting one's own and ones family's position in the home community. Large sums are spent on house building and on funerals, for festivities and religious purposes, and on education. Cattle are bought for security in shrewd preference to bank deposits.

Migrants living away from home, particularly the Lake fishermen, were observed following the same pattern. They keep strong connections with home and identify with it by building a house there. The workplace remains a workplace, although most of the time is spent there: they are still strangers, exploiting a renewable resource with their learned skill. There is no general tendency to move outside this field of knowledge by 'productive' investment elsewhere.

Large sums of money remain inaccessible to banks and other agencies attempting to foster a more generalised type of development less dictated by local patterns of skill and resource availability. The traders are the banks and perform a dual function for which effective substitutes are not obviously available. In which way are local needs most adequately and

economically fulfilled? How does this affect the needs of those outside the local area? There are two issues; what people want and how to achieve what they want. Where development agencies presume to tell people what they want and to define their development for them, the only argument for the agency is the way to achieve the set goals. Policy makers need to learn what people want from what they already do.

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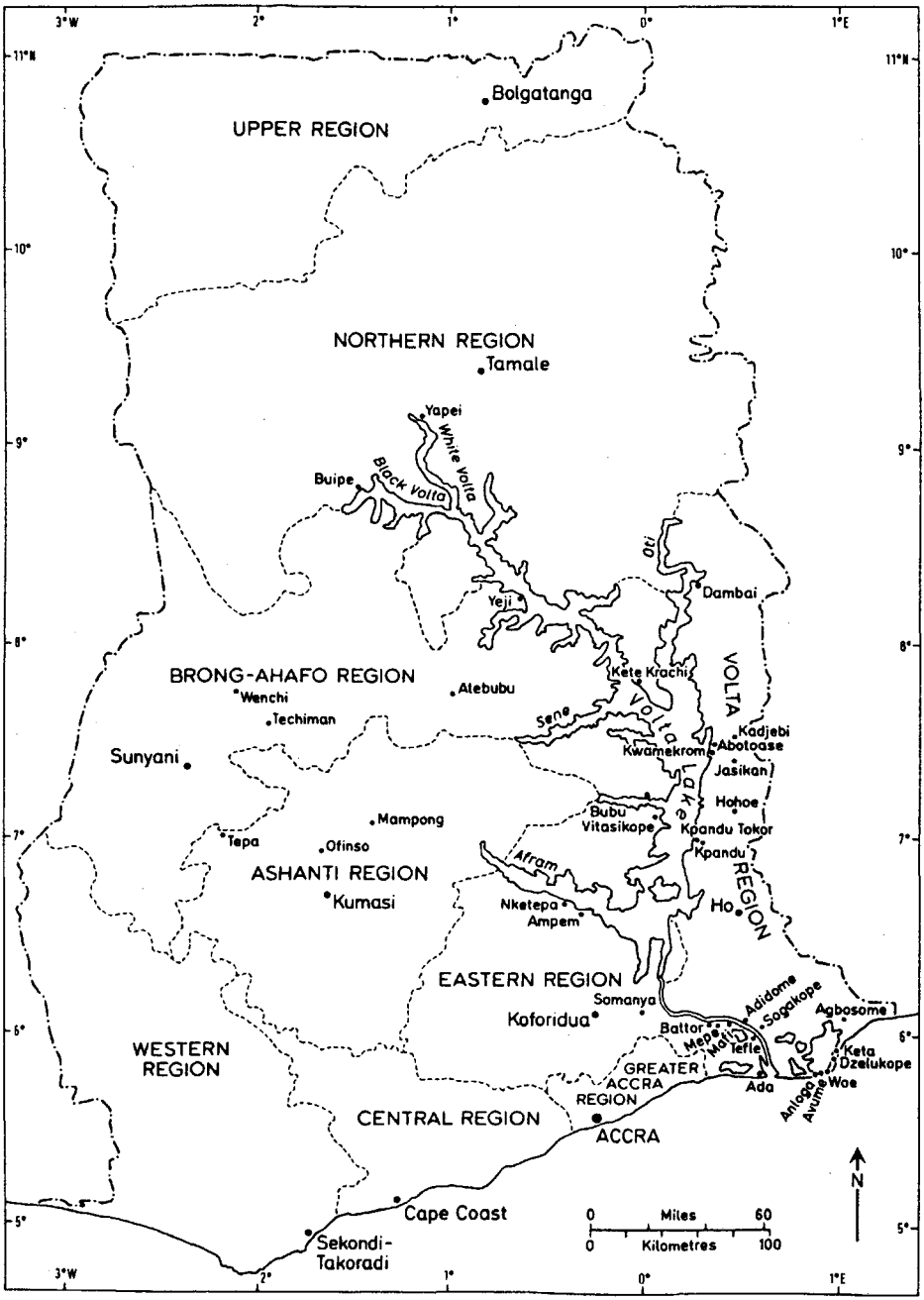
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Techiman
Atebubu
Sene
Kete Krachi
VOLTA
Volta Lake
Kadjebi
Abotoase
Kwamekrom
Jasikan
Sunyani
Mampong
Tepa
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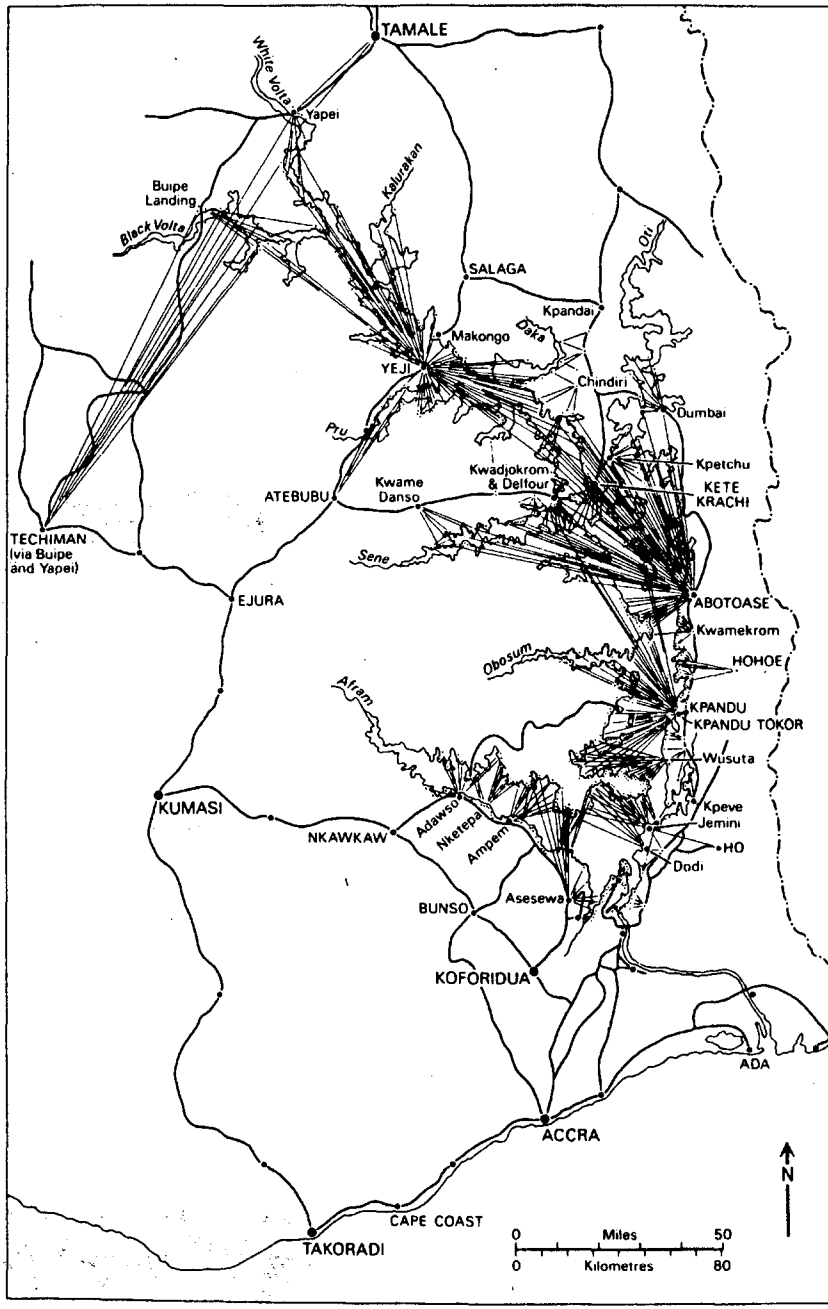
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Dumbai
Pru
Kwadjokrom & Delfour
Kpetchu
KETE KRACHI
Kwame Danso
ATEBUBU
TECHIMAN (via Buipe and Yapei)
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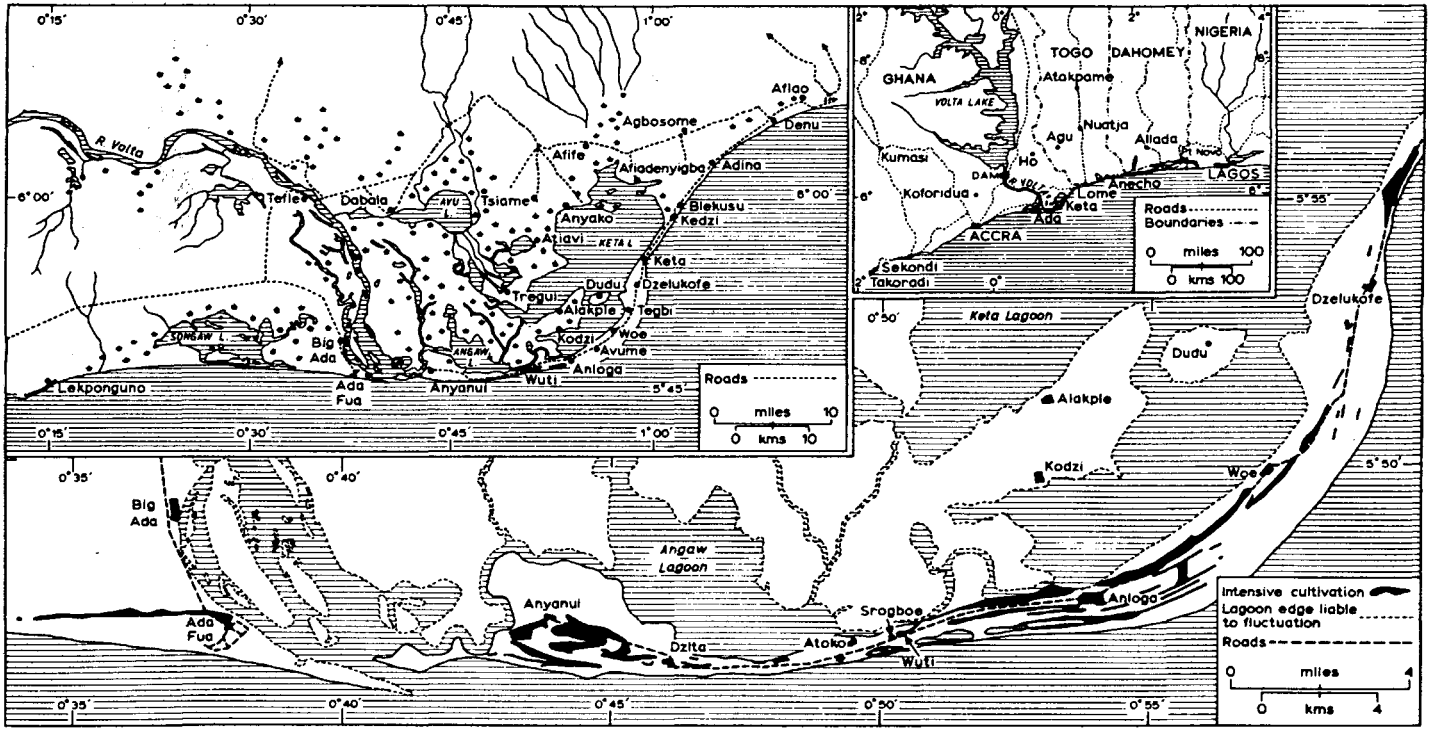
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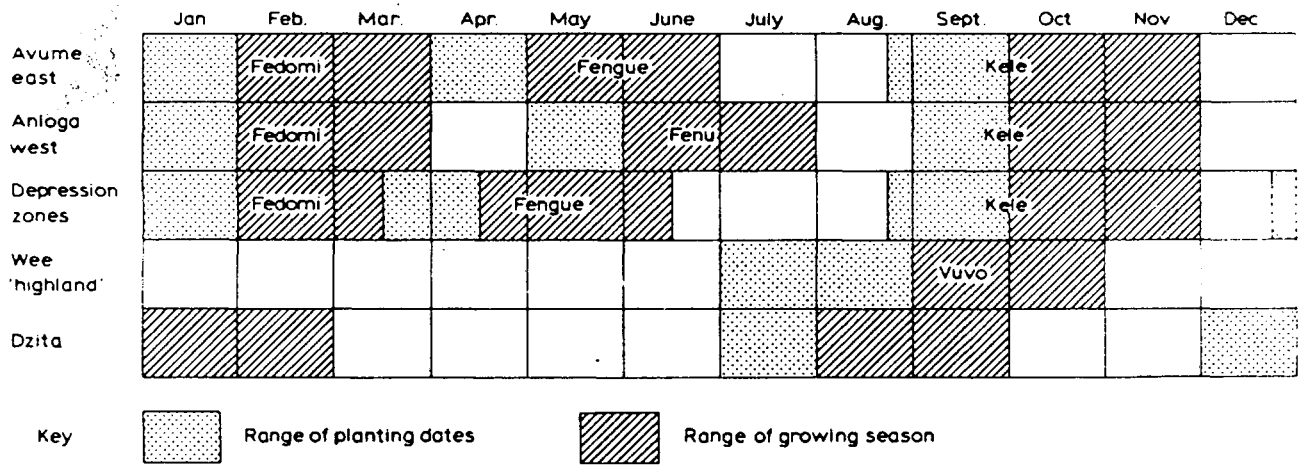
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