
To Integrate or...? Agricultural Development in Sierra Leone

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Our interest in the agriculture of Sierra Leone extends back to the late-colonial days of the 1950s, when the third author took up a teaching post in geography at Fourah Bay College following periods of research among farmers in northern England and the Maltese Islands. Descent from the rarified heights of library and classroom to the 'bush'—ostensibly to teach fieldwork techniques to African undergraduates—quickly revealed a profound ignorance about the methods and aims of those rural communities visited, whose primary concerns even then, notwithstanding the inviting diversions of the Kono diamond rush so recently at its peak (Van der Laan 1965), was the production of enough food to fill the families' bellies through the twelve months from one main harvest to the next. At that time, he could not even see clearly how to go about dispelling that ignorance, so alien did everything seem; yet earlier experience suggested that to try to share the farmers' understanding of their craft might be the place to start.¹ But he himself was the alien and saddled with the ideology and ethnocentricity of his generation, and neither especially gifted linguistically nor certain of the ecological, economic or social processes involved. Further, he was almost totally baffled by the profusion of crop plants, weeds and regrowth in what kindly Mende or Temne hosts demonstrated as their 'rice farms'.²

Learning was slow and aided less by his muddled insights of what he had been led to believe was primitive and hence 'simple', than by students who thought *they* were being taught and by the increasing flow of empirical and analytical studies of tropical peasant farming systems which emerged in the 1960s. The work of Nye and

Greenland (1960), Morgan (1955: 320–33; 1969), Morgan and Moss (1965: 286–94) and Moss (1969) was especially valuable in illuminating systems based bush fallowing and giving ecological perspective. McLoughlin (1970), Hill (1970), Knight (1974), Norman (1969: 18–24) and Wharton (1969) have enhanced appreciation of the socio-economic sub-systems.

Disillusioned with most of the received wisdom of the development literature of the time, he returned to Britain in the mid-1960s to teach post-graduate seminars on the Agricultural Geography of West Africa with the firm conviction that development and development studies could proceed only from a sound basic understanding of that which was to be developed—though the *status quo* had to be seen as a set of dynamic interacting systems, not as a static structural unity.

In 1972/73 and 1973/74 the other authors participated in that seminar and were stimulated to go into the field to investigate aspects of change within farming communities of eastern Sierra Leone; but in neither case were their intentions prescriptive, and a primary aim was to develop an understanding of the true character of traditional food production systems and the decision-making processes implicit in them. None of us planned to investigate the project which concerns this paper, but we have been constrained to pay it attention by empirical observation of its impact, our conviction of its theoretical import, the weight of support given it by government and aid organisations and the interest shown in reportage of this and analogous projects elsewhere. For the wider view see Lele (1975) and Mosher (1972). The ensuing observations are essentially those of outsiders, not exhaustive, and since real transformation of peasant farming takes time, inevitably premature; but our work (Binns 1975 and 1977b; Airey 1978) makes clear that there is here an important topic for research at many levels and of more than local interest.

Of undoubted inherent interest, the Integrated Agricultural Development Projects (IADPs) also strike the attention of 1970s observers for the

¹ Although 'asking the man that cuts the hay' is a time-honoured approach in social investigation, it is curious how little importance was attached to peasant farmers' knowledge and opinions until very recently. No doubt this was an element of the syndrome discussed by Russell (1974). That the approach may also be valuable in technical applications has been shown by Barker, Oguntoyinbo and Richards (1977) and Page and Richards (1977).

² Mixed cropping is not readily quantified, but in the 1970/71 survey (Central Statistics Office 1972) no upland rice was recorded in pure stand, though the crop was thought to aggregate 92% of the area in mixtures dominated by rice. It is the multiplicity of minor crops which confuses. The average holding of 4½ acres comprised no more than two plots, yet produced over 12 different crops. For an appraisal of the practice, see Norman (1974).

contrasts which they evoke. Sierra Leone's agricultural sector, though not without achievement,³ has in general lacked dynamism and maintains a traditional aspect. Perhaps one third of the national territory is farmed extensively under a land rotation system, and three-quarters of the crop area in any year depends on 'slash and burn' technology (Mitchell, 1977: 505). While about 60 per cent of total cropland is devoted to rice, the preferred basic food of most inhabitants (including the million or so non-farm population), fewer than a third of all growers sell any and the share of paddy production moving off-farm may be less than five per cent. (Central Statistics Office, 1967 and 1972.)

Neither under full colonial rule, self-government nor during the politically restless years of the 1960s 'Development Decade' did the export cash-crop sector (principally arboriculture: palm produce, cocoa, coffee) provide surpluses of the magnitude required by the industry-led development theory of the day (Rostow, 1969: 24). Emphasis lay, in Sierra Leone as elsewhere in the Third World, on large-scale high technology projects, preoccupation at the macroeconomic level with growth of GDP, heavy infrastructural investment, industrial expansion largely in the (often luxury) import-substitution area: all perhaps reflecting an over-riding urban bias (Lipton 1977). Nowhere was the spirit of the times more evident than in government's only partially successful efforts to increase rice production by technological means (Whittaker 1971), while distributing controlled quantities of imported rice to the non-farm consumer and endeavouring to suppress market prices made buoyant by demand (Levi, 1976: 143-6); or in the disastrous release in 1964 of Produce Marketing Board (SLPMB) reserves for ill-conceived and mismanaged plantation and agro-industrial expansion (Sierra Leone Government 1968). Close consideration of the overall development proposals put forward in 1962 reveals little philosophy (Carney 1962). Hardly warranting the title, the 1962/63-1971/72 plan was scarcely more than a set of collated departmental estimates, gestated in the euphoric atmosphere of newly-received independence. In general, agricultural policies simply continued trends which may be traced back through the report of Waldo, Capstick and Browning (1951) to the 1920s or earlier (Havinden & Levi 1976).

³ Over the last two decades agriculture has contributed about one third of the GDP and some 15% by value of exports. Saylor (1967) has argued convincingly that the government, through SLPMB, has probably impeded growth of the export contribution

By the late 1960s it was becoming clear that the flamboyant postage stamp assertions of Sierra Leone as "land of iron and diamonds" might not survive the coming decade;⁴ and that development expenditures, while they may have produced some modernisation "cascading down the urban hierarchy as it... funnelled along the transportation system" (Riddell 1971), showed little sign of triggering rural 'take-off' whether in technological, economic or social spheres. Something as imaginative as the 1960s postage stamps themselves would be needed for the true development of the nation's quarter of a million small farms (Central Statistics Office 1967).

The military government of 1967-68 saw the dangers and commissioned a comprehensive study by the United Nations Development Programme and the Food and Agriculture Organisation (UNDP/FAO). Project recommendations for a ten-year agricultural development plan, though more ambitious and less piecemeal than previous proposals, were still largely in tune with earlier orthodoxies and put forward a basically sectoral approach, despite the use of the term 'integrated' (Satyanarayana 1969). That usage was the first local echo of a new language which international agencies, advisers and donor bodies were beginning to speak. (The full syntax of the concept of integrated rural (*sic*) development as used by various agencies has recently been described by Rondinelli and Ruddle 1978; 79 ff). At the ideological level, integrated development appears to constitute an attempt to view the rural situation holistically and to recognise that the vital components interact to produce a functioning whole: there seem to be strong links with the ecological movement and the growth of systems analysis. In its local application, the view that any change in one or more elements will have repercussions throughout the entire system is worked out through a series of constraint-removing functional programmes (Lele, 1975: 17).

The UNDP/FAO report was actually received by the successor government under Siaka Stevens. Although a shift in emphasis appears to have followed financial involvement of the World Bank, it is not clear how far it has progressed beyond new adoption of the vocabulary toward

⁴ Despite energetic attempts at persuasion by successive governments, it became certain by 1970 that the Farangbaia iron ore deposit, adjudged uneconomic a decade earlier (Mitchell and Swindell 1965), was truly of no commercial interest. The Marampa iron workings were saved from closure in 1968 by a Japanese contract, but finally succumbed in October 1975. Very detailed work by Hall (n.d. but 1969) showed that alluvial diamond production would decline in the seventies and tail off in the eighties: production from kimberlites was unproven, but unlikely to be large.

full acceptance of the operational consequences of the concept. In his most recent statements President Stevens does not appear to be giving the broader social aims equal weight with production elements (Stevens 1979). Simultaneously, however, IADPEA is increasingly identified as a project for integrated rural (*sic*) development, and with some justice, as will be shown (Baird 1978, Piper 1979). Indeed, the very act of accepting the IADP operational techniques would make resistance to the philosophies of the 'new model of development' (Seers 1969) increasingly unlikely.

Whatever differences of interpretation there may have been, the current national development plan, brought forward in 1974, is firm in its commitment: "The main thrust of productive projects [in agriculture] is on integrated development projects, which will have been established in each of the four regions of the country by the end of the Plan period". (Ministry of Development and Economic Planning 1975). The theoretical implications pointed to a process "not merely combining the necessary elements to achieve economic growth but combining economic growth with equitable distribution of the benefits and social development" (Gaitskell 1974). Improvements in farm productivity would be linked directly with marketing arrangements, transport facilities, amelioration of nutrition and health and expanded educational opportunity: components both upgraded and brought into enhanced functional relationship. Under this strategy, agricultural change would act as catalyst to a general enhancement of rural living.

Only the first of the four planned IADPs has been going long enough for realistic appraisal, and as it is inevitably something of a 'guinea-pig', much may be learned from the Eastern Area project. Centred on Kenema, an interior town of 31,000 inhabitants, somewhat distant from the capital but reasonably well-served by communications, the project area covers some 2,350 square miles in 32 chiefdoms of the Eastern and Southern Provinces. Nomination of this area to some degree involved building on demonstrated capability, its core already perhaps the most prosperous and certainly the most diversified of the country's farming regions (Mitchell, 1977: 511) and close to the centres of demand generated by diamond mining (Swindell 1966, Binns 1975). Also, with the encouragement of improved wetland rice-growing as a primary aim, three features showed promise: exploitation of inland valley swamps was already proceeding apace (Central Statistics Office, 1967: tables 27

& 29; 1972: 429); the traditional upland system is here under some stress,⁵ and suitable unused swampland is widely abundant (Gwynne-Jones, 1978: 80).

Feasibility studies suggested a favourable cost-benefit outcome in the IADPEA for concentration on three crops. A package, including the introduction of new cultural technology, intensive extension coverage and farmer training, was devised for each. Interestingly, they form together an integrated land use system such as had been urged by conservationists (Waldock 1951; Stark 1968) over many years: oil palm (with timber and firewood) on upland, interfluvial and slopes; cacao on terrace levels; wetland rice in swamps and on flood plains—the appropriate ecological niche.

Project policy necessitated the simultaneous planning and implementation of development inputs, and the creation of a strong management structure, sufficiently efficient in up-to-date procedures for the direction and co-ordination of extension, credit and training aspects of the scheme. Ironically, it proved essential to create a strongly centralised and virtually autonomous internal administration to give flexibility to the management of a very complex exercise. The project manager was responsible equally and directly to the International Development Association affiliate of the World Bank (which put up long-term credit to meet 77 per cent of costs) and to the Minister of Agriculture, but lateral linkages with parallel regional structures hardly existed. Such an arrangement clearly poses problems for the later stages of a successful project when the specialised structures are no longer needed and should be allowed to wither. Preparatory modifications of the command structure are now taking place: recently the Deputy Project Manager has also been appointed concurrently as Agricultural Officer Eastern Province and some local extension officers of the Ministry of Agriculture and National Resources (MANR) are now overseeing certain IADP matters. Such arrangements would have been totally inappropriate earlier when MANR morale at all levels was not high and efficiency suffered. It is difficult to see how any attempt at adaptation could have produced the intensity of

⁵ Estimates prepared by Mitchell in connection with the cartography of the *World Atlas of Agriculture* suggest that fallow clearance practices in most southern and eastern districts cannot be maintained in perpetuity; the bush is being consumed rather than rotated. The situation appears particularly critical in Kenema and Kailahun districts, despite the high crop: fallow ratios of current practices—1:10 and 1:7.5. However, these data hide local variations, and there is clear evidence that some farmers have been forced into swamp cultivation by land shortage (Alrey 1978: 9–10).

the early IADPEA effort, with the top management maintaining day-to-day contact with all departments, and the Management Unit establishing and continuing contact with the 2,500 adopted farmers through monthly meetings of field staff, farmer training and visits.

From the beginning flexibility was a hall-mark of IADPEA and the autonomy permitted by World Bank and Cabinet allowed modification in response to field conditions. Of numerous examples, we instance three:

1. Initially a wide-ranging extension programme was envisaged, in which the chief criterion for adoption was simply that a farmer should be willing and judged capable of understanding and using project aid. Consequently the Land Planning and Crop Development arm adopted farmers in widely scattered situations. When the Credit Section came into operation (essentially to provide inputs of fertiliser and seed), the rainy season played havoc with access to remote farms. The Management Unit was thus forced to adopt a more geographically restricted role, but also helped initiate a feeder-road construction and improvement programme. Programme documents acknowledged that "a major omission in the IADP design was the provision of penetration roads" (Co-operative for American Relief for Everywhere 1975) which has left accessibility lagging behind project needs.

2. A feature of IADPEA has been the subordination of credit provision to extension activities (see also Baird 1978). Understandable in the context of project philosophy, this has increased the costs of providing inputs and servicing loans. Under phase I these credit servicing costs (notably for vehicles and salaries) were incorporated in the general budget. With the emergence under phase II of the Post-Project Farmers' Finance Company (FFC) to take over the credit operation, the whole question of cost effectiveness loomed large. The income generated from a current loan capital of Le 1 million is insufficient to cover the costs of maintaining the IADP-type service. Rather than expanding the loan base, FFC has chosen to decentralise by dispersed service centres for the supply of essential inputs and loan repayments. Six are now being built and a further six are planned.

3. Many farmers have been reluctant for health reasons to work in the swamps. IADPEA has therefore sponsored a Farm Health Survey to establish baseline data on the incidence of a range of water-borne parasitic diseases (Coleman 1975).

Related considerations have led to the initiation of water improvement schemes, thereby ending the age-old dependence on swamps for dry-season domestic water supply in adopted villages.

Current plans for phase III (of what is still nominally a project for agricultural (*sic*) development) confirm this trend towards infrastructural and more general non-agricultural concerns.

Other changes have occurred elsewhere, but the point stressed here is the element of vertical integration envisaged in IADP planning. The fruits of enhanced productivity were to be released through guaranteed processing and marketing channels, partly to remove potential disincentives, but also to ensure for the Project an effective method for credit repayment. Vertical structuring was especially important for oil palm, where a peasant outgrower system to complement plantation production for a modern oil mill of 12,000 tons throughput was a key component. In fact, neither outgrower nor plantation production has yet reached the levels to feed the mill (which has also experienced mechanical problems). There are, however, further problems related to the financially advantageous option of manual processing and the retailing of oil in the urban markets using low-cost family labour, and to price differentials between IADPEA and SLPMB for the purchase of palm fruit (Airey 1978). Early plans also proposed the establishment of 20 small rice mills and direct marketing facilities. However, a 1975 study considering mills already in existence in both rural and urban areas argued that there was "a sufficiency of rice mills already in the hands of entrepreneurs". Rice mills were therefore struck out of the proposals (IDA 1975). Nevertheless adoptees' rice continues to be purchased by the project and, in view of the low price offered by the government Rice Corporation, sales have been arranged privately to maintain farm incomes and producers' confidence in catering for market.

Difficulties in project management deriving from differential pricing policies of IADPEA, SLPMB and the Rice Corporation reveal a cleavage between the 'enclave' economy of the project and that of the nation. Other aspects of lack of congruity between the ideals and the practical possibilities and achievements of development through integrated projects will now be considered from IADPEA evidence.

At the farm level, IADPEA does not offer any technical aid other than instruction and inputs

for project crops. Case-histories show that even this one-crop package may disintegrate because promised aid arrives late or not at all. Needs in relation to the farmer's other crops, and indeed current management, are ignored: scant regard is paid to two major existing cropping systems, the upland rice fields⁶ and coffee groves. The approach might almost be said to be disintegrative of the individual enterprise; action is so crop-specific that in the minds of some clients fertiliser is taken to be a chemical only of value for the crop for which it was provided. The educative role has not been fulfilled and even on-farm spin-off is inhibited.

Similar points can be made at the community level. Here activity has increasingly been polarised towards the more accessible parts of chiefdoms. Our fieldwork in one area reveals that extension activity has been biased towards communities situated on improved roads: in the words of one extension officer because it is "easier and quicker to supervise" there. The addition of an accessibility criterion runs counter to the integration school's principle of 'equitable distribution' (Gaitskell 1974). In an adjacent chiefdom we found selective adoption of social and economic leaders: in one village where activity is strong one project farmer is the chief, two are imams and the remaining two had much larger than average households (15 and 25 persons). An unsought for reinforcement of rural élites appears, as in older Sierra Leone projects (Haas 1974). Yet this is surely inevitable, since credit and extension facilities are organised through the local administrative cadres: Paramount chiefs vet for credit worthiness and verify tenure. And a start must be made somewhere, unless resources are to be distributed too thinly to have significant impact, as has been broadly true of MANR extension work in the past. At this level, as at the regional and national levels, final judgement must be delayed until the degree of spread of productive innovation can reasonably be assessed.

Given the project principle of initial concentration for maximum effect, there is at the regional

level a major discrepancy between IADPEA and MANR in addition to the lack of coordination earlier mentioned. Intensive ratios, estimated at one extension worker to 80 adoptions, have allowed the successful achievement of crop production targets; but at MANR's estimated 1:1,200 ratio there is much less hope of substantial advantage being taken of any diffusion of enthusiasm, ideas and techniques which IADP may generate in adjacent areas. Despite the very much larger number of farmers outside the scheme, it appears that 80 per cent of the fertiliser use in the region is input through IADP. Yet there have been suggestions from fieldwork of spread effects: both of swamp improvement for commercial production near the mining settlements (Binns, 1977a: 16) and recently expanded interest in cacao and other tree crops within the sphere of influence of project farms. However, generally favourable prices in recent decades have independently helped arboriculture into slow, but consistent growth—and it is significant that coffee is expanding most quickly and this is not an IADPEA crop. As to improved swamp rice, the techniques disseminated by the Inland Valley Swamp Rice Scheme (1970/71 onwards) and its precursors (Todd 1967) would be difficult to distinguish from IADP methods, and only very detailed investigation would give any real hope of tracing accurate origins and paths of innovation. Verdict: 'not proven'.

Nationally, the development plan proposed three further IADPs to follow the Eastern Area pathfinder; one can interpret their distribution as either a genuine attempt at inter-regional (and inter-ethnic) equity, or as being dictated by political necessity—which may not prove to be a radically different thing. The World Bank is again backing the second scheme—a Northern Area IADP centred on Makeni—though it is understood that there are less satisfactory cost-benefit projections there. Recently a new project has been commenced in Koinadugu, but in this case financed from the development funds of the European Economic Community (Collins 1979). The present status of the two remaining proposals for the south and the north-west is uncertain. For the overall design to be successful at the national level, the projects will have to be sufficient in number and adequate in strength as growth nodes with appropriate centrifugal power to 'fill out' the national territory. This is a very different order of target from those actually engaging the day-to-day activity of workers in IADPEA, which, as they tell us, already appear formidable enough. Granted its potential value, the inte-

⁶ This particular neglect is of long-standing. Only a very small proportion of the valuable work of the Rice Research Station at Rokupr was devoted to varieties and techniques suitable for rainfed culture (Binns, 1977b; In. 6). Spencer (1973) has shown that, whatever the long-term ecological argument, the economics is more favourable for improved upland rice cultivation than for intensive swamp development. Traditional non-intensive methods of swamp farming are also very favourable in his analysis. At the socio-cultural level, an understanding of the role played by the upland rice farm in the life of communities of the Eastern Area has been lacking, despite such forceful studies as those of Little (1951a; b). It is difficult to see how true integration can occur without recognition of upland farming and the encouragement of its improvement.

grated approach is neither an easy nor a cheap option.

In conclusion, we have not been able totally to agree on a number of points: there are varying shades of muted optimism about the IADPEA itself; we hesitate over whether the concept of integrated development has been pushed with full rigour; one of us feels quite strongly that the project has fallen short on its more general rural development obligations, while another argues that a gradual shift to socially-oriented aspects was not intended but enforced by the realities of the situation (if valid, surely a strong point in favour of the rationality of integrated rural (*sic*) development). We do all concur, however, in the view that for each project the crunch will come when independent status is removed, when projects lose their external linkages and support and are exposed to competitive demands within the administration or at the political level: they will need to be hardy growths by that time! Success can only be total when and if the integrated project becomes transparent (*disintegrates?*) against the developed regional or national socio-economic landscape which it has been instrumental in bringing forth. There are few such signs at present.

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