During recent years I have been engaged on five main concerns. One — research and development work on management procedures for rural development — will be reported on in the forthcoming (Summer 1974) issue of this Bulletin concerned with research on government, administration, and planning. The other four are:

- settlement schemes in tropical Africa
- social and administrative aspects of range management
- rural development policies for Botswana
- aspects of agrarian change in Sri Lanka and South India

Settlement Schemes in Tropical Africa

In tropical Africa the latter 1960s were a heyday not only for settlement schemes but also for social scientists wishing to carry out research on them. I was very lucky in being able to study the Mwea Irrigation Settlement in Kenya and the Volta Resettlements in Ghana\(^1\) and then to benefit from the descriptions and insights of others' research on schemes elsewhere. The outcome was a comparative study of settlement schemes as organisations.\(^2\) The most important policy conclusions were: first, that smaller and simpler projects were usually to be preferred to those which were larger and more complex; and second, that 'success' (by most of the common criteria applied) was more likely to be achieved through higher economic returns to settler families than through greater attention to welfare. A typology of settlement schemes was developed in the hope that it would make choices between alternative forms of settlement clearer and easier to make. This work led through to an

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independent evaluation mission for an integrated rural development project in Burundi in which refugee and other settlement had been a major component.³

A further undertaking was a joint project with Jon Moris to write and edit a book of studies of the Mwea Irrigation Settlement.⁴ One of our main aims was to describe and analyse the scheme as a whole and to bring together the interests and insights of the relevant disciplines in the social and natural sciences. We had no funds specifically for this and relied on the ability and willingness of contributors to support themselves. It is easiest to show the range of aspects of the scheme that have been covered by listing the chapters:

- The Mwea Environment
- The History of the Scheme
- Engineering Aspects and Water Control
- The Production System
- Staff and Management Systems
- The National Organisation of Irrigation
- Tenant Performance and Budgets
- Women and the Household Economy
- Health and Nutrition
- Education and Cooperatives
- Tenant Life on Mwea, an Overview
- The Perkerra Irrigation Scheme: a Constrasting Case
- The Scheme and Rice Marketing in Kenya
- An Economic Evaluation of the Scheme
- Mwea in Perspective (including evaluations according to administrative, technical and social criteria, and general lessons)

The book has policy implications for development projects in general, and for settlement and irrigation in particular, by no means only in Africa.⁵ A rather arbitrary selection of some of the more striking findings with policy implications are:

- the crucial importance of competent management in complex schemes

³ R. Chambers (with T.J. Aldington), Burundi Report.
⁵ Their relevance in the Dry Zone of Sri Lanka is striking, and the Sri Lanka Government could benefit in its struggle for self-sufficiency in rice by studying some of the lessons of Mwea.
the prevalence, functions and dysfunctions of management myths
the tendency for the benefits of schemes to be exaggerated
the importance of the core economic process but the dangers of attention to it to the neglect of welfare
the tendency for the life of women to be worsened in settlement situations
the need to take into account irreversibility in pre-investment appraisals

With particular reference to Kenya, findings include: that the population supported by the scheme is smaller than had been supposed; that the standard of living of settlers is less high compared with their non-scheme neighbours than had been believed; and that the introduction of two-acre holdings in place of the four-acre holdings advocated by the ILO Mission to Kenya would probably lead to a depressed rural area.

I find it difficult to judge what effect all this work has had or may have. For one thing, what we did in Burundi was overcome by political violence. For another, the results were presented in such a way as to be neither readily digestible nor accessible. The book on Mwea makes several recommendations (mainly the work of my co-editor) for improving the life of settlers, and it happens that the management is currently following policies very much along these lines; but for reasons largely if not entirely independently of the book. If I were doing it all over again I would try to make the comparative study of settlement schemes more incisive — the lessons more obvious — and, above all, to get it out in paperback instead of in an expensive (if respectable) hardback series. I nurse a fond delusion that this labour will prove to have been worthwhile; but my furtive glances at copies of the two earlier books in libraries suggest that they have not yet become favourite bedtimereading. The delusion, though, can be sustained with a little ingenuity by arguing that one of the main conclusions from this work has been that too much attention has been paid to settlement schemes; if the books are not read, then is that not success?

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Social and Administrative Aspects of Range Management
In 1969 I carried out research and consultancy work on social and administrative aspects of range management proposals for the North-eastern Province in Kenya. This came to include an attempt to map the soils, tribal political spheres of influence, main water points, and seasonal migration patterns of the province. I do not think that the cautious scepticism and the warnings of irreversible ecological deterioration in my report had much effect, and large-scale investment in water supplies for one area went ahead regardless. I think I learnt more from this exercise than the Kenya Government did, one of the main lessons being the need for a short summary of the argument and recommendations of any report. Some of the lessons were applied later in similar work in Botswana.

Rural Development Policies for Botswana
Although my research and consultancy in Botswana with David Feldman took only 3½ months (plus a month to recover), I have the feeling that it was at least as productive and useful as the years devoted to settlement schemes. In the spring of 1972 we were invited to advise on rural development policies, at a time when the Government was giving priority to rural development and was concerned to devote to the rural sector a substantial proportion of the rapidly rising revenues from mining. Under pressure of time, our learning and thinking processes were speeded up. In several cases we were driven into inventing categories in order to handle the material and recommendations. We advocated a policy of 'commercialise, diversify and distribute' including exploiting the markets in the new towns to benefit the rural areas, introducing a new land policy to restrain land grabbing while permitting commercial development, moving towards more imaginative and relevant agricultural research, setting up a Rural Innovations Trust Fund to encourage new ideas, removing restrictions on local traders and lowering licence fees, developing small water supplies, and many other measures. We also tried in our report to suggest procedures which could be used to


implement some of our recommendations, for instance for village projects and for agricultural extension. The great majority of the recommendations, including the land policy, were accepted in Botswana Government White Paper. It now remains to be seen if they are implementable, and, if so, whether they have the effects intended.

Agrarian Change in South Asia
Since May 1973 I have been working in Sri Lanka and Tamil Nadu on the project jointly sponsored by the Centre of South Asian Studies, University of Cambridge, the Department of Economics, University of Madras, and the Agrarian Research and Training Institute, Colombo, on agrarian change, comparing two rice-growing areas – North Arcot District in Tamil Nadu and the Southeast Dry Zone in Sri Lanka. In collaboration with colleagues I have been concentrating on administrative aspects of agricultural extension, the organisation of water management, and the system of targetting and estimating for paddy production. Increasingly, however, various leads are drawing me away from earlier preoccupations with administration and management towards the perceptions of agricultural scientists, the processes of choice which generate new technologies, and the social and economic impact of those technologies. While it is too early to say much about what results will come out of this, one preliminary policy implication is that for a gradually increasing number of tropical environments agricultural scientists should be thinking more in terms of increasing productivity per unit of water than per unit of land; but old habits of thought die hard.

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