

## Applied Geographical Research in East Africa

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In Tanzania in East Africa a possibly unique attempt has been made since 1967 to focus the work of a team of full-time geographer researchers on national problems, and the experience, both a sobering and rewarding one to the authors, may have some interest for the profession.

Many countries in Africa have sprouted national institutes of economic research usually attached in some loose way to the national universities. In Dar es Salaam an attempt was made to form a space and resource-oriented research group alongside a primarily economic institute. The cumbersomely worded Bureau of Resource Assessment and Land Use Planning was conceived by the Department of Geography to carry out research in the fields of resource analysis including population resources, land use, and regional planning in support of the current and long term plans of the United Republic of Tanzania and in support of those fields in the University at Dar es Salaam (formerly University College).

The bureau administered by a director, currently Dr. A. C. Mascarenhas, is advised on its research program by a program committee bringing together civil servants and academics and chaired by the senior civil servant in the Ministry of Economic Affairs and Development Planning.

One of the first publications attempted to set out some guidelines for the research program, to quote that document.

Considerations for an Effective Research Bureau

A poor nation must be ever critical of how it uses its scarce resources, whatever their origin may be. In this, the Bureau is no exception and some mention should be made as to how we view the basis for designing a research program. First, the research program should be directly related to national goals, particularly as affirmed in the Arusha Declaration. "All citizens together possess all the natural resources of the country in trust for their descendants..." The Declaration urges that emphasis in development should be on land and agriculture, the self-reliance of the people, good policies and good leadership. Specifically this suggests that our research program be in the rural sector, geared to providing knowledge with which to help implement the goals now being developed for the 1969/74 Plan. Second, we should try to be effective, by building on past work, current research interests at the College, and concentrating our efforts to build up the depth of insight lacking in most planning efforts. Tanzania, like all developing nations, has had its share of reviews, reports, short term consultations, and the varied forms through which expert external assistance is focused. As the Bureau tries to develop its own research capability within University College, it should pursue a somewhat different emphasis. It should concentrate its efforts on a few problems and a few areas, so as to avoid the hit or miss character of the project by project

investigations that characterize most external research and planning assistance. It must provide for continuity by the rapid training of East Africans and by blending with the on-going research efforts of the College staff. Third, the Bureau must be useful. In a sense it is on trial, to prove its utility to the institutions which call upon its services, the College, and the Government. At the same time it must prove itself a first rate research unit if it is to merit continued and growing support. There is always a danger that these goals may conflict and either the bureau is viewed as a convenient manpower pool to fill pressing immediate needs or as a convenient umbrella sheltering a set of diverse and protracted, albeit interesting, research projects. Neither outcome is desirable and it should be possible to design a set of activities for the Bureau, pragmatic in content and academic in method. (Research Perspectives BRALUP, 1967)

At the end of the second year of its operation it was clear that the bureau filled a major gap in the countries research needs. Demands for research grew rapidly and it was possible to work out a worthwhile academic and practical program while restricting the build up of staff to about twelve.

The research program fitted into six major areas of inquiry: Rural Water Development - mainly on the planning and social aspects; included surveys of water needs, the effect of providing water in rural areas, optimum location of water points, hydrological aspects of rural water planning and the melding

of other development programs with a vigorously pursued water development program. The bureau ran two conferences which provided a forum for the exchange of views between a range of technical, administrative, academic, and other persons in this field. (See for example RP3, 11, 12, 13 in Appendix.)

Regional Planning - an important aspect of Government development aims is the regional spread of development; Bureau work to date includes studies of the planning process, problems of organization and co-ordination, some theoretical studies and a significant advisory role to Government. (See for example RN4, 11; RP1, 14; RR6 - 10, 30 to 39, in Appendix.)

Transportation Planning - work was centered over the past four years on improving low cost feasibility studies, research in the effects of provision of various kinds and levels of feeder road networks and work on the 'pull' effects of major through roads. The main studies focussed on the road network in cotton growing areas. (See for example RP8, 16; RR1, 8, 11, in Appendix.)

Land Use and Village Level Planning - most of the work in all six fields of inquiry was at village level and these particular studies concentrated on land use and developmental planning of villages. An attempt was made to devise criteria for success or failure in new village settlements. A major study of agro-economic zones of the whole country has been completed and work on soils and soil erosion in selected areas is mostly complete. In studies of land use in West Lake Region an attempt was made to combine labor budget studies, with production data and an analysis of the dynamics of man-land relations. These

studies were used in ujamma (collective) village planning in the area. (See for example RN2, 4, 7, 8, 9; RP5, 10; RR4, 10, 13, 16, 29, in Appendix.)

Urban Problems - the major focus of the bureau's work is the rural sector, but studies are now underway of urban centers as potential growth poles, and of the interaction between town and country. (See for example RN11 in Appendix.)

Demography and Migration - the bureau has played a significant role in the analysis of data from the 1967 population census, and in interpreting the information for planning purposes. Local variations in vital statistics are being studied and an analysis of migration of people between rural and urban areas, and between rural areas is in progress. (See for example RN3, 5b, 10; RP15, 18, in Appendix.)

While some of the studies were national in character (e.g., basic data assemblage, regional zonation.) it was necessary, because of the high cost of transportation and communication, to restrict work to a number of selected regions; although after four years studies had been carried out in over fifty villages (Figure 1).

#### Impact and Experience

It is still not five years since the first bureau member was appointed, but in the rapidly moving African scene this is time enough for assessment and evaluation. Firstly it is clear that there has been an impact. For good or ill the bureau has had a considerable influence on the planning program in rural water, it has worked on detailed planning studies and seen some of the implications. In the field of regional planning, bureau

staff have worked alongside ministry staff, have participated in working parties on a variety of issues, and have played a significant part in the current thinking in the ministry. In transportation the bureau built up a unique capacity in East Africa, possible in Africa, and the research started in this field could lead to wide reassessments of the methodology on impact of roads in developing areas. In village level studies one staff member worked very closely with officials in his region and played an unobtrusive but significant part in the approach to village problems in that area. However, some of our research was essentially mundane, involving merely the collection and collation of data for a particular short term purpose. Other work was never used or was overtaken by events and some was never completed.

In the light of the problem focus of the bureau the need for a variety of expertise was evident. In the recent staff list, there were seven geographers, two economists, one sociologist, one demographer (economist), and one hydrologist with eight nationalities represented. We did find that the geographer does have a good deal to contribute to development work of this kind. The geographer's willingness to work in the field and spend considerable effort on data collection is a significant attribute as is the ability of some geographers to focus on the problem in hand and to tread without too much fear into other disciplinary areas.

Secondly we found that University students in a developing country represent an extraordinary resource for research

directed towards the needs of the society. One week field work training programs were given to 76 students, they in turn used their intimate knowledge of language, people and countryside. The net effect was to amplify the capabilities of the senior research staff and the educational experience of students.

There was varied success with foreign students and we found as others have that it is not easy to follow the twin goals of dissertation writing and applied research though some people managed this successfully. Where an individual was willing and able to work out his thesis topic in Tanzania it was possible to define areas of investigation which lent themselves to the constraints of dissertation oriented research. The greatest drawback was in the great gaps in time which occurred before the final document came through, and time and energy need to be allotted for a preliminary report to be written in the country if this is at all possible.

The conflicting demands of a single minded, single authored narrowly focussed thesis and the trend to co-ordinated goal oriented research is something worth considering in the context of North America as well.

The major lesson we learnt was to be somewhat humble of our expertise in the face of the major problems of a developing country but to appreciate the vast potential of the now simmering applied revolution in geography. Many of the problems of development have fundamental spatial or resource dimensions that are so little understood. It may be that it is now within the grasp of the discipline to combine good empirical research

into existing problems with the formulation of new development theory, space oriented. Institutions such as the bureau we have described may help to achieve something on both these fronts.



TABLE 1

	1967	1971	Total Involved
Full Time Staff	2	12	16
Research Assistants	1	3	6
Student Assistants	41	84	225 (of which 75 were trained)
Associated Staff			10
Research Associates			10
No. of Village Studies			C 50
Questionnaire Data available from all studies, i.e. people interviewed			3,000?
Operating Costs 1971 - not included Senior Staff Salaries			\$90,000
<u>Publications 1968/71</u>			
Research Notes			15
Research Papers			18
Research Reports			52

Publications of the Bureau of Resource Assessment and  
Land Use Planning, University of Dar es Salaam, Tanzania

(Note: 1 Tanzanian sh. = \$.14 approx. if ordering please  
prepay and include estimated postage.)

(a) <u>Research Notes</u> (RN)	<u>Prices</u>
No. 1* <u>Research Perspectives, September, 1967</u>	
No. 2* <u>J. McKay, Planning for Development: a Review of Studies of Traditional Rural Settlement in Tanzania, November 1967</u>	
No. 3* <u>I. D. Thomas, A Survey of Administrative Boundary Changes in Tanganyika/Tanzania, 1957 to 1967, for use in Intercensal Comparisons, November, 1967</u>	
No. 4 <u>L. and E. Berry, A Preliminary Subdivision of Districts into Rural Economic Zones: A Map with Key, March, 1968</u>	5/00
No. 5 <u>Guide to Basic Data on Resource Assessment and Land Use Planning:</u>	
Part 5a* <u>I. Jackson, Rainfall Stations in Tanzania, October, 1968</u>	7/00
Part 5b* <u>I. D. Thomas, Population Density in Tanzania</u>	7/00
Part 5c* <u>Bibliography of the Geology and Mineral Resource of Tanzania to December, 1967. August, 1969</u>	7/00
Part 5d <u>D. Conyers, Forestry in Tanzania, October, 1969.</u>	7/00
Part 5e <u>J. E. Heijnen, The River Basins in Tanzania a bibliography, March 1970</u>	7/00
No. 6 <u>L. and E. Berry, Land Use in Tanzania by Districts, April, 1969</u>	7/00
No. 7 <u>J. R. Pitblado, A review of Agricultural Land Use and Land Tenure in Tanzania, June, 1970</u>	7/00
No. 8 <u>I. D. Thomas, Some Notes on Population and Land Use in more densely populated parts of the Uluguru Mountains of Morogoro District, July, 1970.</u>	7/00
No. 9 <u>I. D. Thomas, Some Notes on Population and Land Use in the North Pare Mountains</u>	7/00

		<u>Prices</u>
No. 10	I. D. and C. J. Thomas, <u>Comparative Population Data for the Division of Tanzania, February, 1971</u>	7/00
No. 11	C. F. Claeson, <u>Movement to Towns: Tables and Comments, April 1971</u>	7/00
(b) <u>Research Papers (RP)</u>		
No. 1	S. Jensen, <u>Regional Atlas, Mainland Tanzania, June 1968</u>	7/00
No. 2*	C. Schalage, <u>Polished Versus Whole Maize: Some Nutritional and Economic Implications of the Processing of Maize in North Eastern Tanzania, July 1968</u>	7/00
No. 3	J. Kreysler, <u>Uhuru na Maji: Health, Water, Supply and Self Reliance in Mayo Village, December, 1968</u>	7/00
No. 4	R. Davis, <u>Prospects for Joint Production of Livestock and Wildlife on E. African Rangeland: The case of Kenya, January, 1969.</u>	7/00
No. 5*	J. Rald, <u>Land Use in a Buhaya Village, A case Study from Bukoba District, West Lake Region, June, 1969.</u>	7/00
No. 6*	J. D. Heijnen, <u>Primary Education and Proposed Agricultural Experiment in Mwanza District, August, 1969</u>	7/00
No. 7	W. L. Dickson, <u>National Mapping Program, Specification and Costs in Developing Countries, August, 1969.</u>	7/00
No. 8	J. Mkama, <u>Transport Planning in Tanzania: An Assessment, September, 1969.</u>	7/00
No. 9	J. D. Heijnen, <u>Mechanised Block Cultivation Schemes in Mwanza Region, December, 1969.</u>	7/00
No. 10	L. Berry and R. W. Kates, <u>Planned Irrigated Settlement: A study of Four Villages in Dodoma Region and Singida, Tanzania, May, 1970.</u>	7/00
No. 11	D. Warner (ed.) <u>Rural Water Supply in East Africa Proceedings of the Workshop on Rural Water Supply, May, 1970.</u>	7/00
No. 12	<u>Water Development - Tanzania. A Critical Review of Research, April, 1970.</u>	10/00

		<u>Prices</u>
No. 13	<u>L. Berry et al, Human Adjustment to Agricultural Drought in Tanzania: Pilot Investigations, February 1971.</u>	7/00
No. 14	<u>Some Aspects of Regional Planning in Tanzania, February, 1971</u>	7/00
No. 15	<u>R. Henin, Aspects of African Demography, April, 1971.</u>	7/00
No. 16	<u>Road Feasibility Studies in Tanzania, May, 1971</u>	15/00
No. 17	<u>H. Murray-Rust, Soil Erosion and Sedimentation in Kisongo Catchment, Arusha Region, June, 1971</u>	10/00
No. 18	<u>J. E. Moore, Rural Population carrying capacities for the Districts of Tanzania, July, 1971</u>	7/00
 (c) <u>Research Reports (RR)</u>		
No. 1*	Transport Problems in Mbambara Ujamaa Village	5/00
No. 2*	Interim Report on a baseline study of the Proposed Village Settlement at Kiwanda	5/00
No. 4/1*	Measuring Land Use in Ismani (Iringa District)	5/00
No. 4/2*	The Ismani Piped Water Supply: Some Suggestions for Future Extension and Improvement	5/00
No. 4/3*	Measuring Land Use in Ismani (Iringa District) A Comparison between the results obtained in 1969 and in 1970	5/00
No. 5*	Benefits from Rural Water Supply: the Impact of the Bulenya Hills Pipeline in North-east Nzega.	5/00
No. 6/1	North-east Nzega Planning Project - Basic Data on Northeast Nzega	5/00
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No. 6/6	Progress Report on North-east Nzega Planning Project	5/00
No. 6/7*	Administrative aspects of District Development Planning: The case of Nzega	5/00
No. 6/8*	Soils of North-east Nzega	5/00
No. 6/9*	Recommendations for the Development of the Mwambiti and Wembere Plains	5/00
No. 6/10a	Integrated Planning and Water Development	5/00
No. 6/11*	A Report on Rural Water Use Characteristics in Geographic Sub-Areas of the North East Nzega Study area Part 1	5/00
No. 6/12*	A Report on Rural Water Use Characteristics in Geographic Sub-Areas of the North East Nzega Study Area - Appedices to Part One	5/00
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No. 6/15*	Water Use Records for Distribution Points of the Bulenya Hills System.	5/00
No. 6/16*	Water Use Records for Distribution Points of the Bulenya Hills System part Two: Mbutu, Bunjiri and Ibuta	5/00
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No. 9	Rainfall in the Ruvu Basin	7/00
No. 10*	Ujamaa - problems of implementation, with special reference to West Lake Region	7/00
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No. 15	The Extension of the Kisitwi-Rubeho Pipeline: A Planning Study	5/00
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No. 27	Potential Land Use Classification in connection with the Kishanda Valley Project	7/00
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No. 30	Economic Report of Dodoma Region	5/00
No. 31	Economic Report of Mtwara Region	5/00
No. 32	Economic Report of Iringa Region	5/00
No. 33	Economic Report of Tabora Region	5/00
No. 34)- 39)	Economic Reports of other regions (Singida, Ruvuma, Kigoma, Morogoro, Mwanza)	5/00

		<u>Prices</u>
No. 40	Sukumaland Inter-disciplinary Report	40/00
No. 42	Dodoma Population Density	5/00
No. 43	Bibliography of Dodoma Region	5/00
No. 44	Dodoma Region 1929-59: A History of Famine	10/00
No. 45	The Spatial Correlation of Fluctuations in Rainfall over Tanzania: A preliminary analysis	7/00
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