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ANNOTATED BIBLIOGRAPHY
ON
SMALL FARM CREDIT DATA COLLECTION
AND
ANALYSIS

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SMALL FARM CREDIT DATA COLLECTION AND ANALYSIS BIBLIOGRAPHY

1. Alexander, M.C. and P.J. Scott, "The Implication of Group Credit for Rural Development in Malawi," paper presented at Eastern Africa Agricultural Economics Society Lusaka Conference, May 1974.

Paper discusses the experience with group lending in the Lilongwe Land Development Programme (LLDP) in Malawi since 1968. Informal, non-compulsory groups of 10-30 members are formed with joint liability. A reserve deposit is required for each member to cover defaults. Interest is paid on the deposit. Budget summaries suggest significantly reduced administrative costs using group loans. (50% drop.) Estimate credit charge of 13.5-16.5% needed for group lending to break even depending upon average loan size (assuming 5% default). Group lending has had repayments after two years of over 90%.

2. Armer, Michael, "Survey Research in Africa: A Sociologist's View," African Studies Review, vol. XVII, no. 3, Dec., 1974.

This article is a critique of Hopkin's and Mitchell's, "The Validity of Survey Research in Africa: Some propositions," which appears in the same journal. The author suggests that some of their propositions are "not necessarily appropriate for all social-cultural settings or for all survey research objectives within Africa." He also points out that several of their propositions are too general to be included in the realm of survey methods per se.

Suggestions are made concerning the tailoring of research objectives to specific settings in each study rather than transferring the same methods from study to study. Also, multiple methods should be employed insofar as possible since all methods involve errors of one kind or another which may vary in different study circumstances.

3. Baker, C.B., "Credit in the Production Organization of the Firm," American Journal of Ag. Economics, vol. 50, August 1968. Discussion vol. 51, May 1969.
4. Barghouti, Shawki M., "Some Cultural Constraints in Collecting Socio-economic Information from Rural Communities," The Arid Lands Agricultural Development Program, The Ford Foundation, Beirut, Lebanon.

This paper briefly deals with problems encountered in collecting socio-economic data from rural people in developing countries. The author stresses the need for community understanding of and participation in the planning of research activities in their area. It has been his experience that "researchers are to blame for...distrust of rural people toward research."

The respondents to inquiries should be treated as participants rather than objects. Several examples of how questions should be worded in order to get the desired response are presented. Barghouti points out the difficulties in measurements, space-time relationships among rural people.

5. Barry, Peter J., "Financial Management and Farm Planning Information: Some Implications for Research and Education," Canadian Journal of Agricultural Economics, November 1970.
6. Boisvert, Richard N., "A Method for Farm Planning Under Uncertain Weather Conditions with Application to Corn-Soybean Farming in Southern Minnesota," St. Paul, University of Minnesota Agricultural Experiment Station Technical Bulletin 292, 1973.

Risk averse farmers in southern Minnesota should plan their corn and soybean production so that bottlenecks in field operations are least likely to occur at planting time. Because additional spring field time for these conservative farmers can be worth almost six times as much as additional fall field time, their machinery systems should be planned for large planting capacity. Risk takers on the other hand should plan their machinery systems so that spring and fall field capacities are about equal. The purpose of this study was to build a farm planning model including data on time available for field work and on yield losses associated with untimely field operations. Because the amount of time suitable for field work is a random variable, a chance-constrained mathematical programming model was developed to handle field work as a random variable.

7. Chawla, J.S. and G.S. Khera, "Impact of New Crop Varieties (Wheat and Paddy) on the Crop-Mix, Income Level and Credit Needs on Farm Holdings (A Study in Amritsar District of Punjab)," Economic Affairs, vol. 17, no. 3, March 1972.
8. Clark, C. and M.R. Haswell, The Economics of Subsistence Agriculture, London: Macmillan, 1964.

This book contains evidence from over fifty countries on the behavior of the subsistence cultivator -- his methods of production, his use of time, his methods of transport and exchange, his tenure situation, his consumption patterns. In particular it stresses the need for improvement of transport in order to facilitate the transition of a subsistence to a commercial economy. A slowly increasing or even constant level of production per head is a characteristic peasant agriculture. Where the rate of growth of agricultural output has been high, as in Japan and Mexico, it has been brought about by a rapid technical and scientific advance and the presence of an incentive in the shape of a ready supply of cheap manufactured goods. Caution is advised when considering under-employment in subsistence agriculture, as it may result from a preference for leisure or be caused by fluctuations in the seasonal demand for labour. Where climatic conditions inevitably leave cultivators idle for part of the year considerable diversification of production should be encouraged.

9. Cordes, S., "Criteria for Evaluating Borrowers Repayment Potential," Journal of Farm Economics, vol. 49, December 1967.
10. Dalrymple, Dana G. and Edith Allen, "Algunas de las Características Económicas de Fincas en Colombia que Están Recibiendo Préstamos de Incora (Some Economic Characteristics of Colombian Farms Receiving Incora Loans)," Working Document no. 17B, no. 17E, Washington, 1971.

11. Dalton, E.G., "The Application of Discounted Cash Flow Techniques to Agricultural Investment Problems," Journal of Agricultural Economics, vol. 18, no. 3, September 1967.
12. Doster, James and Richard E. Suttor, "Linear Programming Analysis of the Impact of Credit on Small Farm Production, Inputs and Profits," Documento analítico de trabajo no. 9. Washington: Sector Analysis Division, Bureau for Latin America, USAID, 30 1, 1973.
13. Fogg, C.D., "Economic and Social Factors Affecting the Development of Smallholder Agriculture in Eastern Nigeria," Econ. Devel. Cult. Change, vol. 13, no. 3, 1965.

An examination is made of the means available to develop agriculture in Nigeria, noting the social and economic barriers. Comments are for the most part limited to Eastern Nigeria, although they are also applicable to the southern part of Nigeria and to many tropical African countries having similar economic conditions. Five basic approaches to agricultural development are being tried or considered in Eastern Nigeria: (1) commercial plantations; (2) nucleus plantations; (3) settlement schemes; (4) smallholder "investment" schemes; (5) smallholder "improvement" schemes. Output/input ratios for plantation, settlement, smallholder investment and smallholder improvement schemes under conditions operating or contemplated in Eastern Nigeria are given in tabular form, and are commented upon. The input/output ratios for nucleus plantations are about the same as those for regular plantations and are, therefore, not listed separately. It is postulated that agricultural development on areas similar to Eastern Nigeria should be divided into the following stages: (1) smallholder development; (2) continuation of smallholder development and introduction of larger production units. Empirical evidence shows a fairly high degree of economic motivation among the various tribes in Eastern Nigeria and it is postulated that the degree of acceptance of new agrarian techniques partially depends on the magnitude of monetary return and the timing of the return. Economic barriers to successful smallholder schemes are summarized as: (1) limited government capital; (2) scarce capital among peasant farmers; (3) market imperfections; (4) limitations of land; (5) labor limitations; (6) lack of efficient processing facilities; (7) limiting factors of time and distance on extension agents. Social barriers to smallholder development are summarized as: (1) inertia and fear of failure; (2) fear of loss of prestige through failure; (3) bias against agriculture; (4) short time horizon; (5) non-economic calls on capital. Suggestions are made for development tactics: (1) optimum use of capital; (2) improved marketing facilities; (3) processing facilities; (4) price controls.

Propositions - (1) The probability that individuals will adopt a change is increased if a material benefit will result. Evidence: Example of adoption of cocoa, cashews, and poultry by farmers in Eastern Nigeria when there was a profit to be made from these products.

14. Friedrich, K.H., Farm Management Data Collection and Analysis System, Food and Agriculture Organization of the United Nations, September 1977.

This is a technical manual designed to be used with keypunch and computer. Discussion includes farm management data collection and analysis and the various statistics which are involved, farm management selective analysis, farm management statistics and function analysis, and farm programming.

In each section examples are given on how data should be transposed onto keypunch cards.

In the appendices, organization of farm management data collection is dealt with more thoroughly. Here the author looks at sources of data, the preparation for data collection, the interviewer and supervision. An example of data collection and analysis is given in Appendix 2.

This system is designed to work on the IBM 370 - 145 computer at FAO headquarters.

15. Gates, G.R. and G.M. Gates, "Uncertainty and Developmental Risk in Peasants Irrigation Decisions for Peasants in Campeche, Mexico," Economic Geography, vol. 48, no. 2, British Columbia University, Vancouver, April 1972.

Descriptors: *Irrigation Programs, *Irrigation, *Evaluation, Performance, Regional analysis, Water resources development, *Mexico. Identifiers: *Uncertainty, Short-run policy, Long-run policy.

An approach for evaluating resource development possibilities by structuring policy alternatives in their regional context as presented. The framework employed used a product set presented as a tree diagram identifying the major distinguishable decision alternatives based on (1) extent of agglomeration or vertical integration of irrigated agricultural production with processing and marketing; (2) scale of irrigation projects; (3) performance characteristics of irrigation systems; and (4) extent of mechanization associated with the irrigation. This decision-tree framework can be used to argue relative merits of various alternative combinations of the four classifications and to structure the problem for evaluation of the "development risk." Several interesting results emerge from applying this framework to irrigation projects in Campeche, Mexico. One is that the number of decision alternatives that remain after eliminating the inefficient combinations is quite small, although it is impossible to eliminate all combinations except the one, obviously best, alternative. Also, this application suggests that certain policies might be advantageous in the short run and others more advantageous in the long run, particularly with changes in constraints. This indicates that transitional policies might be desirable.

16. Heyer, Judith, "A Linear Programming Analysis of Constraints on Peasant Farms in Kenya." In Food Research Institute Studies, vol. X, no. 1, 1971.
17. Heyer, J., "Some Problems in the Evaluation of Subsistence Output," (Nairobi, University College, Centre for Economic Research) Discussion Paper no. 65.

A number of concepts, suggested partly by experience of farming in Lowland Machakos, are put forward for discussion.

18. Hopkins, Raymond F. and Robert C. Mitchell, "The Validity of Survey Research in Africa: Some Propositions," African Studies Review, vol. XVII, no. 3, December 1974.

This brief article advances sixteen propositions which the authors feel are relevant to current survey research in Africa. Five of these propositions are concerned with survey design, four with survey execution and six with survey evaluation.

The authors seem to take an optimistic viewpoint on current survey research methods in Africa. They include in their recommendations for improvement the need for an African Survey Research newsletter. This could be important in linking the various disciplines involved in different facets of survey research together. Although interesting and enlightening, some of the propositions seem to have little to do with survey methods per se but rather apply to social research in general.

19. Hunt, K.E., Agricultural Statistics for Developing Countries, Oxford University Press, 1969.

This book is presented as a work manual for data collectors in LDC's. Author presents chapters on data required, applications of sampling to agriculture in developing countries, staff and field organization, errors and error control, crop forecasting, statistics for a variety of crops and livestock, price and market statistics and others.

Of particular interest is a chapter on Farm Operation and Budgetary Recording. Here he looks at the frames involved, the general scope of such an undertaking, the approach to recording and farmer contact, staffing, recording techniques and problems.

The book covers a broad area of data collection. Much of it is concerned with field and yield measurements. The chapter noted above does lay a foundation for the relationship between resource inputs and product outputs. In order to quantify this relationship, some type of farm record keeping, either by the farmer himself or through frequent contact with enumerators, is essential.

20. Hursh-Cesar, Gerald and Roy Prodipto, Third World Surveys: Survey Research in Developing Nations, MacMillan Company of India, Ltd., New Delhi, 1976.

This comprehensive book draws upon the experience of a number of people working in survey research. Its principle aim is to focus upon overcoming the cultural biases inherent in survey research. Themes explored in the book include: 1) the need for using complementary research methods; 2) the need for adequate pre-testing; 3) significance of human errors (particularly those of the interviewer); 4) the need to study non-random sources and types of biases; 5) improving ability of other researchers to replicate the study and of practitioners to know the socio-economic feasibility of implementing results.

Each chapter looks at a different aspect of survey research such as the survey setting, types of field experiments, problems in sampling and interviewing, etc.

This is probably one of the most thorough publications on the subject of surveying farmers in developing nations which is currently available.

21. Husain, Tariq, "Operational Constraints and Economic Analysis," International Bank for Reconstruction and Development, December 1974.

In the first part of this paper the author deals with probabilistic reformulation using the Monte Carlo Methods. He highlights with an example of a flood control project.

The second part of the paper deals with bureaucratic constraints as they affect surveying and research goals. The author points out that "...research--especially socio-economic research--cannot be made independent of the bureaucratic goals of the sponsoring as well as the recipient organizations." He discusses several ways that these can be dealt with in the research design. He illustrates with a proposed World Bank project in Africa.

22. Igben, M.S., "Determining Credit Worthiness of Peasant Farmers: Research Results in Nigeria," Savings and Development, FINAFRICA Milan: Italy, Quarterly Review No. 1, 1978-II.

Reports on a study of Nigerian borrowers to help a credit institution to discriminate between credit worthy and credit non-worthy peasant farmers. Stress is placed on intensity of labour use, motivation towards farming, investment per acre, and operational efficiency as crucial determinants of farm productivity. Regression results showed these four variables were associated with 82 percent of the observed variation in farm productivity for 850 farms studied. Indexes were established to standardize measurement. Discriminant and regression analysis were analytical techniques used.

23. Jeffers, J.N.R., "Constraints and Limitations of Data Sources for Systems Models," G.E. Dalton, editor, Study of Agricultural Systems, Applied Science Publishers Ltd., 1975.

The main purpose of this paper is to show that data collection itself imposes constraints upon the ways in which data may subsequently be used. Four types of modeling activities related to data sources are identified. These are: (i) conceptual models; (ii) post-analysis, data-based models; (iii) designed models, and (iv) model validation.

There is a major discrepancy between two philosophies of data collection. The accounting theory assumes that the subsequent use data is independent of the methods of collection whereas the "statistical" theory insists on the essential interdependence of the way in which data are collected and the methods of analysis which are appropriate for those data.

The author concludes the paper by emphasizing that the true unit of the transmission of concepts in the progress of science is the model itself and not the data used to construct or validate the model.

24. Johnston, B.F., "The Choice of Measures for Increasing Agricultural Productivity: A Survey of Possibilities in East Africa," Tropical Agriculture, Journal of the Imperial College of Tropical Agriculture, West Indies, 1964.

Part I examines general principles for allocating resources to agricultural development. Use of scarce resources, particularly those of high opportunity cost, should be minimized. 'Complementary inputs', such as research and extension programmes, should be selected to make the most of the limited men and money available. Given the shortage of statistical data, priorities will largely have to be decided on the basis of personal experiences. Part II draws on some of them to examine what are the 'proximate factors' (those depending on farmers' own decisions and 'conditioning factors' determining productivity increases. The latter include research, and spreading its results; better supply of inputs and marketing of outputs; financial aids and incentives; and methods of influencing human attitudes.

25. Kabwegyere, T.B., "The Survey Method, Participant Observation and Some East African Experiences," Seminar/Workshop on Field Collection of Socio-Economic Data in Developing Countries, Beirut, Lebanon, December 1974.

The important points of this paper are covered in Field Data Collection in the Social Sciences: Experiences in Africa and the Middle East, Bryant Kearl, ed. The author contrasts the survey method with participant observation, stressing that the latter is more pertinent for anthropological studies. Sample selection and data collection are also discussed. The paper emphasizes that time constraints may seriously affect the quality of data collected in survey and the analysis of that data. It is suggested that university personnel be given more time for research in this area and that research assistants be provided academic incentives to improve the quality of work done in the field.

Although there are some good points brought out in this paper, there are also many grammatical and/or typographical errors which make it difficult to follow the author's concepts and ideas in places.

26. Kahlon, A.S. and S.S. Johl, "Nature and Role of Risk and Uncertainty in Agriculture," Indian Journal of Agricultural Economics, vol. 19, no. 1, January-March 1964.

The purpose of this study is to examine how the farmers adjust their crop acreage to the uncertainties of occurrences and make allowances for their conceptual uncertainties. The study attempts to: (1) establish the fact and extent of variations in the acreage of important commercial and food crops in relation to the fact of variations in yields, prices, and rainfall over their growing periods; and (2) to examine the fact and extent of risk fund allowances the farmers make as a result of conceptual uncertainties.

27. Kearl, Bryant, ed., Field Data Collection in the Social Sciences: Experiences in Africa and the Middle East, Agriculture Development Council, New York, 1976.

The material presented in this publication comes from an ADC seminar which was held in Beirut, Lebanon in 1974. Many of the participants in this seminar present papers which have previously been reviewed (see: Spencer, Norman, Husain, Gucelioglu and Collinson).

In the beginning of the book there is an excellent list of the people involved in the seminar complete with the title of their contribution, a brief description of their research and their address.

Methodological considerations make up most of the book with research approaches, sampling, local support and cooperation, recruitment and qualifications of interviewers/enumerators, interviewing techniques and problems, pre-coding, coding and preliminary steps in analysis making up the bulk of the material.

This is a good reference book in terms of actual field experiences but much of the material is too localized to be of use in other areas of the world.

28. Krishna, Raj and D.K. Desai, "Economic Models of Farm Planning Under Uncertainty," Indian Journal of Agricultural Economics, vol. 19, no. 1, January-March 1964.
29. Long, Millard F., "Why Peasant Farmers Borrow," American Journal of Agricultural Economics, vol. 50, no. 4, November 1968.

Interest rates are high in the rural credit markets of poor countries. Yet it is often said that the rates of return on capital invested in traditional inputs is low. Under these conditions it would seem uneconomical for farmers to borrow; if funds are needed, farmers should sell assets. If the expected costs are greater than the expected benefits, farmers will not have as much incentive to borrow money. Indeed, the evidence suggests that in poor countries most farmers are free of debt. But there is great diversity; some farmers do have high marginal returns on capital; some borrow at low rates; seasonality influences the debt structure, as does the level of wealth; and transactions costs may make borrowing cheaper than selling assets. Introducing uncertainty reduces the chances that farmers will borrow.

30. Luning, H.A., "Patterns of Choice Behaviour on Peasant Farms in Northern Nigeria," Netherlands Journal of Agricultural Science, Wageningen, 1967.

A budget analysis on 28 peasant farms showed that, subject to the primary objectives of self-sufficiency in food, the proportion of cash crops to subsistence crops was mainly determined by maximum cash income expectation. All land not allocated to groundnuts was planted to cereals as a hedge against low yields and none left fallow.

31. Madiman, S.B., "Agriculture and Institutional Planning," Economic Weekly, 1965.

Three major observations are presented and examined. (1) Owner-farmers in India are relatively few and are greatly outnumbered by the combined total of (a) moneylenders, traders, farmers-cum-moneylenders, and moneylenders-cum-traders, farmers-cum-moneylenders, and moneylenders-cum-traders, and (b) the vast numbers of landless farm workers and tenants. In order to survive, the owner-farmer continuously yields to (a) while gradually descending to the level of (b). (2) The Government lacks a clear fiscal policy for rural areas as a result of lack of data and consequently conflicting hypotheses. No clear picture can therefore emerge on whether there is net flow into or out of agriculture. (3) The cooperative movement has not gained due recognition because (i) the Government has no consistent policy and the policy adopted is not fully implemented and (ii) the cooperative organization is dominated by vested interests perpetuating their stranglehold on the structure

of agriculture. The stanglehold works through the market mechanism. In subsistence areas, it is the cultivator-cum-moneylender-cumlandlord, in cash crop areas it is the moneylender-cum-shopkeeper, and in commercialized-monetized areas it is the moneylender-cum-trader, who benefit most. In such circumstances, measures such as the fixing of minimum prices, the licensing of trade or compulsory procurement will not ease the difficulty of drawing supplies into the markets. The credit structure needs first to be overhauled. Accompanying measures would be a policy for land management to get the maximum out of the soil.

32. Massell, B.F., "Farm Management in Peasant Agriculture: An Empirical Study," Food Res. Inst. Stud., vol. 7, no. 2, 1967.

A sample survey of 56 farms has been held in a peasant farming area of Rhodesia to study the effect of farm management on the output of staple food crops. Farmers are divided into skilled, semi-skilled and unskilled categories of management. After elimination of the influences of certain other factors, no significant differences have been found in technical efficiency (output net of inputs) on a per ha basis. These findings throw doubt on the relevance of the agricultural extension service's rating system. Yields of groundnuts and maize, on which the extension service concentrates, are much higher in the "skilled" group.

33. Massell, B.F. and R.W.M. Johnson, "Economics of Smallholder Farming in Rhodesia: A Cross-Section Analysis of Two Areas," Food Res. Inst. Stud., vol. 8 (suppl.), 1968.

In Rhodesia, a study was made of the factors responsible for low productivity in peasant agriculture, by means of sample surveys in 2 agricultural areas, representative for the "reserve area" and for the "purchase area." In both cases, little increase of output can be expected from more efficient allocation of existing resources. In the purchase area, where farms are twice as large and more integrated in the money economy, the return to more fertilizer is high. Present economic performance in the purchase area is already impressive: value of gross per ha output is about 4 times the output in the reserve area sample. Further research is recommended.

34. Naidu, V.T., "Risk and Uncertainty in Agriculture in Relation to Credit," Indian Journal of Agriculture Economics, vol. 19, no. 1, January-March 1964.

This paper discusses the ways in which risks can be reduced to the credit institutions, to the investor in the credit institution, and to the borrower. Provision of adequate credit at reasonable rates though essential may not stimulate investment. An increase in farm investment will take place only when the risks and uncertainties in the minds of the farmers are removed. Along with credit, supply steps must, therefore, be taken to reduce natural and technical risks in farming.

35. O'Barr, William M., "Survey Research in Africa: An Anthropologist's View," African Studies Review, vol. XVII, no. 3, December 1974.

This author's point of view, although related more to anthropology than economics, is useful in that it provides insights into some of the ethnologically

important variables involved in data collection. Well worth reading for a slightly different perspective on the subject.

36. Oehler, Klaus, "Metodologia, hipotesis y conclusiones generales del estudio sobre la situacion economico-social de los minifundistas indigenas de Guatemala," Estudios Sociales, Guatemala, no.1 July 1970.
37. Patil, S.M., "A Case Study of Repayment of Crop Loans and Causes of their Non-Repayment in Maharashtra State," Indian Journal of Agricultural Economics, vol. 22, no.2, April/June 1967.
38. Ruthenberg, H. ed., "Smallholder farming and Smallholder Development in Tanzania," (Munich, Weltforum Verla, 1968/Ifo-Institut fur Wirtschaftsforschung) Afrika-Studien no. 24.

Ten case studies on different aspects of land, technological, production, and marketing problems of small holders in selected districts of Tanzania are included. They are: Land use in the Kilombero Valley BAUM E; Cotton Farming in Sukumaland VON ROTHENHAN D; Permanent farming on Ukara LUDWIG, H D; Permanent cropping in the Usambara Mountains ATTEMS M; Coffee-banana holdings FRIEDRICH K H & RUTHENBERG H; Traditional farming and coconut-cattle schemes in the Tanga region GROENEVELD S; Village settlement schemes NEWIGER N; Tobacco schemes in the Central region SCHEFFLER W; Smallholder sisal POSSINGER H. An evaluation chapter by the editor summarises the main findings to assist agricultural production development policy. Relationships between gross return, labour availability, and crop acreage in smallholdings are tabulated. The variations noted in performance among similarly placed low-income cultivators are attributed largely to non-economic factors such as skill and enterprise.

39. Savale, Raghunath Shunkar, "Farm Planning and Possibilities of Capital Accumulation on Selected Farms in Nasik District of Maharashtra State (India): An Application of Multi-period Programming Procedures," unpublished Ph.D. dissertation, Kansas State University, 1964.
40. Scott, John T. Jr. and Chester B. Baker, "A Practical Way to Select an Optimum Farm Plan Under Risk," American Journal of Agricultural Economics, vol. 54, no. 4, November 1972.

Farm planning, Midwest, Optimum, Risk, T-Quadratic programming.

Abstract: This paper uses quadratic programming to calculate the variance-efficient mean income path and associated lower income bounds and suggests a way to select an optimum farm plan under risk based on the farmer's own self-assessed income-risk preference function. An empirical example from a Midwest corn-soybean farm is presented.

41. Segall, Marshall, "Some Observations on Observations on Observations," African Studies Review, vol. XVII, no. 3, December 1974.

Another critique of Hopkin's and Mitchell's, "The Validity of Survey Research in Africa: Some propositions." Author provides some important qualifications to the sixteen propositions.

42. Smith, Mervin, "Applied Research and Development of Agricultural Credit--Relation and Methodology," Memoria I Reunión de Dirigentes de Crédito Agrícola de América Latina, Guatemala, C.A. Banco de Guatemala, vol. IV, 1967.

43. Spencer, Dunstan S.C., "Collecting Primary Socio-Economic Data in Africa - Some Experiences from Sierra Leone," Beirut, December, 1974.

Review of marketing system for staple crops and economics of rice production in Sierra Leone. Author discusses data collection techniques used and, where applicable, how these could be improved.

Stratified sampling techniques were used in both studies and the details were discussed. Single visit technique was found not to be adequate for flow-type information unless the system being worked with is very simple. List of factors were presented justifying the use of multiple visit (or cost-route) technique. Short, detailed, structured questionnaires were used in conjunction with this technique. Use of enumerators and supervisors was discussed stressing training and rapport between enumerators and informants.

Paper presented a good, general review of two specific projects, but there were no specifics concerning data collection in a credit project.

44. Spencer, Dunstan S.C., "Micro-level Farm Management and Production Economics Research Among Traditional African Farmers: Lessons from Sierra Leone," Agricultural Economics African Rural Employment, no. 3, Michigan State University, September 1972.

Four methods of farm management and production economics research are discussed. The most important include farm account books, farm business surveys and the cost-route method.

Further discussion of farmer sample selection in Sierra Leone rice study is included along with enumerator conduct and preparation (see: Spencer, "Collecting Primary Socio-Economic Data...").

Measuring of labor inputs, land inputs and estimating output are some of the more important topics dealt with in this paper. Also some general principles of field work such as farmer co-operation, enumerators and collecting "sensitive" information are discussed. This last point is especially important when dealing with questions involving credit and indebtedness and the author lays out some broad guidelines of how to handle such data.

45. Spencer, Dunstan S.C., "Micro-Level Farm Management and Production Economics Research Among Traditional African Farmers: Lessons from Sierra Leone," Agricultural Economics African Rural Employment paper no. 3, Michigan State University, September 1972.

46. Tollens, Eric F., "Problems of Micro-Economic Data Collection on Farms in Northern Zaire," working paper no. 7, African Rural Employment Network, Department of Agricultural Economics, Michigan State University, June 1975.

Most of the important material in this paper is adequately covered in Field Data Collection in the Social Sciences: Experiences in Africa and the Middle East, Bryant Kearl, ed. The two types of farm surveys, farm business survey and cost-route method, are discussed. Other important topics include: definition of the household unit, selecting the sample from the population, collecting sensitive information, organization of the field survey and logistical problems.

One innovative approach to the handling and storage of data presented by the author is the use of an enumeration form on which punching can be done directly. All activities, fields, crop composition and units of measure are coded on this form. The recorded data can be easily retrieved by any researcher without much explanation and the techniques promote an exchange of data between interested researchers and facilitates inter-country comparisons.

47. Uchendu, Victor C. "Rapid Survey Techniques for Interdisciplinary Research," paper presented at the Seminar on Problems of Field Data Collection in Rural Areas of Africa and the Middle East, Beirut, Lebanon, December 1974.

This paper concerns a project conducted by two economists, an anthropologist and an agronomist between 1966 and 1968, which covered seven district-level case studies in six countries. In these studies they were concerned primarily with technological adaptation of various types of farmers.

The data collection and record-keeping techniques which they employed were unique in that the interviews were conducted by the team members rather than enumerators. Also, the investigation was conducted in areas with some knowledge base which could be drawn upon to supplement data obtained in the field.

Little emphasis was placed on data collection per se in this paper. Most of it was concerned with the characteristics of the study area, the field techniques used, and sampling procedures.

48. Wells, R.J.G., "An Input Credit Programme for Small Farmers in West Malaysia," Journal of Administration Overseas, vol. 17, no. 1, January 1978.

This paper evaluates a crop-based production input credit scheme operated in selected rice rowing areas of West Malaysia by the Agricultural Bank of Malaysia. Bank formed in 1969 and works through Ag. coops, farmer organizations and private local credit centers (LCC). LCC's (main outlet) select borrowers and collect loans and receive 3% commission. Loan rates start at 18% for unsecured loans but dropped to 8.5% in 1973. Coupon books used for credit inputs. Bank delinquent is 20% but lower for LCC's. Some difficulty in finding good LCC's (local input suppliers, buyers, etc.).

49. Whitelaw, W., Ed., "An Economist's View of Survey Research in Africa: Observations on Tarzan, Facism, the Measurement of Attitudes, and Nonparametric Techniques," African Studies Review, vol. XVII, no. 3, December 1974.

Critique of Hopkin's and Mitchell's, "The Validity of Survey Research in Africa: Some Propositions" emphasising the role of expatriates in data collection and survey research.

Non-Alphabatized Entries

50. Catt, D.C., "Surveying Peasant Farmers - Some Experiences," Journal of Agricultural Economics, vol. XVII, no. 1, May 1966.

This brief article contrasts the one-visit and multiple-visit techniques. The author has found that the one-visit technique is adequate for records of acreage, family size, etc. and of yields if done directly after harvest. If different crops are harvested at different times it may be necessary to make several visits to coincide with the harvest of each.

The weekly visit method is probably necessary if accurate labor records and certain other classes of data are required.

Author also stresses the need for full-time recorders and the need for adequate supervision and checking.

51. Gucelioglu, Omer, "Statistical Data Collection in Rural Areas in Turkey," paper presented at ADC Conference on Field Data Collection in the Social Sciences: Experiences in Africa and the Middle East, Beirut, Lebanon, December 1974.

Agricultural censuses were undertaken in order to determine such items as number of agriculture holdings, land tenure and utilization, area sown and crops harvested, land irrigated and fertilized, etc. Standard stratified sampling was employed. Data were also collected for national consumer income and expenditures.

Apparently many people in rural Turkey are literate since one method of enquiry used required participants to keep a notebook of daily or weekly income and expenditures. In addition to this, information on income and expenditures were collected by periodic interviews. It was stressed that social and cultural aspects of the community must be considered when choosing a collection method. The main factors of consideration were listed by the author.

52. MacArthur, J.D., "The Economic Study of African Small Farms: Some Kenya Experiences," Journal of Agricultural Economics, vol. XIX, no. 2, May 1968.

This article is basically a history of enumeration techniques used in Kenya from 1961-1966. Many of the points are similar to those discussed in other materials on data gathering techniques in Africa, however the author does not stress the educational level of the enumerators as do many of the other publications.

Whole farm studies using the multiple visit method have generally proved most successful in Kenyan farm surveys. This type of survey yielded satisfactory information on patterns of farming, production methods, major sources of revenue and profit, their relation to inputs, and the levels of performance achieved by the farmers. Short-comings of this system were also discussed. Author relates how system was amended to adjust for enumerator problems, etc.

Interesting article, but contains no new information on data collection. Most topics discussed in this paper have been covered more thoroughly in other publications on the subject.

53. Norman, David W., "Labour Inputs of Farmers: A Case Study of the Zaria Province of the North-Central State of Nigeria," Nigerian Journal of Economic and Social Studies, vol. 11, no. 1, March 1969.

This is a summary of a quantitative analysis of the time worked by farmers in agricultural and non-agricultural activities derived from the results of a farm management survey in three villages in the northern part of Zaria Province.

In this study village selection was based upon the various distances of the villages from the nearest large city and were intended to represent other villages in the same general location. Detailed enumeration activities were carried out in the villages selected.

This short paper is unique primarily in the criteria used in village selection. Enumeration techniques were very similar to those sited elsewhere.

54. Norman, David W., "Inter-Disciplinary Research on Rural Development: The Experience of the Rural Economy Research Unit in Northern Nigeria," Overseas Liaison Committee, American Council on Education, OLC Paper No. 6, April 1974.

The paper begins by noting the move away from a multi-disciplinary approach to rural development (in which researchers from more than one discipline who work together on a project do not necessarily communicate with one another) to that involving an increased emphasis on an inter-disciplinary approach (where there is greater integration of disciplines through joint projects).

The objective of the paper is to (a) describe the evolution of the inter-disciplinary research program of the Rural Economy Research Unit (RERU) of Ahmadu Bello University in the northern part of Nigeria; (b) examine some of the problems of farmers in the northern states of Nigeria, which have become apparent through the research work undertaken by RERU; and (c) discuss in the light of (b) the types of programs that could result in improving agriculture incomes under the present administrative and financial constraints in the area.

The author provides background on the Institute of Agricultural Research and RERU and also describes how specific research is undertaken at RERU. An overview is provided of RERU's major findings concerning the problems faced by farmers in the northern states of Nigeria. These include (1) low investment in traditional agriculture; (2) land and labor allocation; (3) seasonal labor constraints; (4) low incomes and risk aversion; and (5) implications of the four previous problems.

Strategies to improve agricultural incomes are also presented. These include (1) reallocation of resources presently committed to production; (2) the utilization of more inputs under indigenous technological conditions; (3) adjustment of prices; and (4) adoption of improved technology.

The paper concludes with a discussion of the measures employed to increase the rate of adoption of improved technology. An excellent bibliography is also presented.

55. Yang, W.Y., Methods of Farm Management Investigations for Improving Farm Productivity, FAO Agricultural Paper No. 80, Rome, 1965.

This pamphlet discusses the uses of survey methods in relation to farm management problems. The topics dealt with include: Selection of areas where the survey will be conducted, the choice of the time period, problems of sampling, the designing, pretesting, and duplication of survey forms, selection and training of enumerators, interviewing the farmers and the source and accuracy of data from a farm management survey.

A sample of a survey schedule form is presented on pp. 21-31.

This publication also contains useful information on: farm bookkeeping and financial accounting, farm business analyses, cost and enterprise studies, and farm planning and budgeting.