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ANNUAL REPORT  
FOR THE PERIOD  
1 July 1977 - 30 June 1978  
OF RESEARCH ON  
POOR RURAL HOUSEHOLDS, TECHNICAL CHANGE  
AND INCOME DISTRIBUTION

Contract Number AID/ta-C-1328

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## 1. Introduction

During the period July 1, 1977 through July 1, 1978 the MSU component of the Poor Rural Households Project has completed a major part of the analysis as laid out in the plans of work contained in earlier documents (Annual Report for the Period 1 July 1976 - 30 June 1977 and Semi-Annual Report for the Period 1 July 1977 - 31 December 1977). Because these documents already provide a detailed discussion of the hypotheses tested, methods of analysis, tentative results, and plans for additional work, all within the framework of project objectives, this report will summarize briefly only the major areas of accomplishment during the past twelve month period.

## 2. Major Areas of Work and Accomplishments

A large part of the analysis for this project has been carried out as parts of four closely supervised and highly integrated theses. The theses work was designed and executed during the reporting period with each thesis currently in near-final draft form. Research has been carried out under the direction of Dr. Peter Matlon, principal researcher for the project. In addition, Dr. Derek Byerlee, formerly the principal researcher and currently on leave at CIMMYT, returned to the MSU campus during March 1978 and again during July 1978 to review progress and to provide guidance for on-going work.

The following major areas of analysis have been completed during the reporting period:

1. Aggregate (farm and non-farm) income levels for both rural and urban migrant populations have been described nationally, by region, and by size of metropolitan area for Sierra Leone. Distributional measures have also been calculated.

2. Rural and urban incomes have been decomposed by major sector and enterprise to determine how sources of income vary across ecological regions, and by household income class both nationally and within regions.
3. Households within both the rural and urban sectors of Sierra Leone have been examined to determine structural variation related to levels of income. Structural characteristics include size and composition of household, age of household head, educational and literacy status of household head, and physical resource endowments (land, labor, and capital). Particular emphasis has been given to determining the location and structural characteristics of the poorest households in both sectors.
4. Patterns of resource use have been examined to determine the association between land use and rural income and to determine whether there are significant differences among rural income strata with respect to household labor allocation (by age, sex, enterprise, and season).
5. Cost and returns characteristic of the major farm and non-farm enterprises pursued by rural households have been determined. These have been used to explain variation in enterprise emphasis observed among income strata and to explain the occurrence of major enterprise combinations. In turn, comparative gross margins analysis has been applied to examine the effect of enterprise choice on household incomes.
6. Production relationships for the two major crops enterprises in Sierra Leone, upland rice and inland swamp rice, have been examined in detail through budget and production function analysis to determine the causes of variation in economic efficiency across income strata.

7. A household-firm model has been specified for use in examining the effect of price and wage changes on employment, output, and commodity demand.

### 3. Remaining Analysis and Plan of Work

Some additional analysis remains to be completed to meet the objectives of the project as set out in earlier reports. An income generating function will be fitted to the rural Sierra Leone data set to separate out and identify more rigorously the major causes of income variation among rural households. Further analysis will also be conducted to identify major locational factors which affect the shapes of village and enumeration area distributions. The primary coefficients in the household-firm model also remain to be empirically estimated and the aggregate model will be tested and further refined. Work will also be completed on the Nigerian data to explain observed differences in crop production efficiency among rural households--efficiency differences which appear to be the major determinant of inter-household income variation in that sample. Further minor analyses are also required to integrate the work components already completed.

During the fall, major parts of the additional work will be completed and a draft report summarizing the results of the MSU research will be completed by early winter. The report will follow closely the uniform format agreed upon by the Purdue, Cornell, and MSU researchers. Following the plan of work contained in the third-year project extension paper, the draft report will be circulated to Purdue, Cornell, and AID/Washington to receive feedback. As soon as is appropriate, a workshop will be held at one of the involved universities or in Washington to facilitate this review and to plan the final three-university integrated report.

The bulk of the collaborative work in writing the final report will occur between January and June 1979. The objective of the final exercise will be to take maximum advantage of both the common foci which have guided the research efforts at each institution as well as the substantially different environments within which each study was conducted. These conditions will permit the combined research team to draw conclusions with greater generality and thus wider policy relevance.

#### 4. Administrative Report

##### 1. Budget and Expenditures

<u>Line Item</u>	<u>Total Budget 7/1/76-6/30/78</u>	<u>Actual/ Estimated Expenditures 7/1/76-6/30/77</u>	<u>Actual/ Estimated Expenditures 7/1/77-6/30/78</u>	<u>Total Actual/ Estimated Expenditures 7/1/76 6/30/78</u>	<u>Balance</u>
Salaries	\$117,619.00	\$ 52,434.84	\$ 49,977.72	102,412.56	\$ 15,206.44
Indirect Costs	77,628.00	31,181.82	37,616.04	68,797.86	8,830.14
Fringe Benefits	13,713.00	5,867.12	5,844.75	11,711.87	2,001.13
Consultants	3,000.00	250.00	--	250.00	2,750.00
Travel/Transportation	8,328.00	2,253.00	970.50	3,223.50	5,104.50
Other Direct Costs	29,000.00	19,854.00	5,643.73	25,497.73	3,502.27
<b>Total</b>	<b>\$249,288.00</b>	<b>\$111,840.78</b>	<b>\$100,052.74</b>	<b>\$211,893.52</b>	<b>\$ 37,394.48</b>

67

##### 2. Person Months

	<u>First Year 7/1/76-6/30/77</u>	<u>Second Year 7/1/77-6/30/78</u>	<u>Total 7/1/76-6/30/78</u>
Professional	19.0	10.3	29.3
Graduate Research Assistants	14.0	10.3	24.3
Administrative/Secretarial	4.5	1.0	5.5
Programming	8.0	4.0	12.0
<b>Total</b>	<b>45.5</b>	<b>25.6</b>	<b>71.10</b>