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A.I.D. RESEARCH AND DEVELOPMENT ABSTRACTS



**U.S. Agency for International
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The following cross-sectoral subjects and documents of special interest are featured in this issue of ARDA:

- | | |
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| 1. Appropriate technology: | 596, 599 |
| 2. Rural economics and finance: | 472-479 |
| 3. Rural health delivery studies: | 585-589 |
| 4. the Sahel: | 458, 535, 553 |
| 5. Thailand agricultural economics studies: | 461-469 |
| 6. West Africa fertilizer studies: | 523-526 |
| 7. Women in development: | 552, 561 |

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SAMPLE DOCUMENT CITATION AND ABSTRACT

Item Number & Title	<p>[(171) WHEAT X RYE EQUALS TRITICALE Wolff, Tony]</p>	Author(s)
Document Date & Number of Pages	<p>[1976, 15p.]</p>	
Series Note	<p>CIMMYT (AID/ta-G-1083 GTS) [(In CIMMYT today, no. 5)]</p>	Issuing Office & Contract/Grant Number or Symbol
Abstract	<div style="border: 1px solid black; padding: 5px;"> <p>Triticale, a new crop bred at CIMMYT, is a cross between wheat and rye. It is the first successful "man-made" cereal grain. It is more than a biological curiosity. For the tropics and subtropics, it offers promise of yields and other characteristics equal to those of wheat, combined with tolerance for drought and poor soil and the resistance to disease typical of rye. The success of tritcal encourages the hope that other such intergeneric "wide crosses" will soon follow. Triticale has demonstrated an adaptation to acidic, low pH soils in several areas of the world. Such conditions exist in Colombia, Ethiopia, Northern India, and Brazil. In each of these countries triticales have shown yield performance superior to wheat. The resistance of tritcale to bunts and loose smut at higher elevations is an advantage for the crop. Its greater resistance to <i>Septoria tritici</i> is an added advantage in areas where this disease is prevalent—Brazil, Argentina, Ethiopia, and the Mediterranean region. In Kenya and some other locations, tritcale has outyielded wheat under drought conditions. Experts expect that in fifteen years tritcale will be competing seriously with the bread wheats as one of the world's most important food crops.</p> </div>	
Publication Number	<p>[PN-AAD-154</p>	<p>Paper copy \$2.00 Microfiche \$1.00] Prices</p>

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AGRICULTURE AND NUTRITION

AGRICULTURAL EXTENSION/EDUCATION

(453) PRELIMINARY PROPOSAL FOR STRENGTHENING AND INCREASING COVERAGE OF AGRICULTURAL EXTENSION SERVICES TO SMALL FARMERS IN BOLIVIA

Ray, H E.
1978, 47p.

AED (AID-511-168-T)

Discusses elements considered essential for the success of a proposed farmer extension program in Bolivia. The purpose of this AID program is to inform small farmers about appropriate agricultural technologies. The report opens with a brief review of the history and present status of farmer extension programs in Bolivia. Next, key components of AID's proposed program are described. These include 1) the precise identification and comprehensible formulation of a target-specific message, 2) production of effective farmer education materials, 3) design of a dependable message delivery system. Farmer feedback mechanisms, periodic evaluation activities, and a logical and coordinated overall project structure are also considered crucial to the success of the project. The report next emphasizes that the project depends on strong support from the Government of Bolivia and on a well-trained technical staff. The project area should, moreover, have an adequate agricultural infrastructure. Finally, a project planning and implementation framework is suggested. Appendices contain information on the current Bolivian farmer extension program and a report on a Guatemalan agricultural education program.

PN-AAG-247

Paper copy \$5.64
Microfiche \$ 93

(454) TEACHING MANUAL IN ADVERTISING

Myers, F J.; Ballew, R.J.; Culp, J.E.
1972, 91p.

TVA (PASA TA (QA) 6-69 GTS)

Presents advertising strategies to generate greater demand for fertilizer in developing countries, thus improving food production. The text was prepared by the National Fertilizer Development Center of the Tennessee Valley Authority. The first section reviews the basic elements of advertising, covering trademarks and trade names, packaging, advertising agencies and marketing plans. The second section explains the effective use of major advertising media: radio, TV, newspapers, magazines, direct mail, billboards, and exhibits. This section also discusses how to identify audience, campaign objectives, and the most appropriate media for a given situation. Guidelines for media coordination and evaluation of results are also provided. Section Three presents hypothetical problem situations and explains their solutions. Problems covered in these case studies include new competition, surpluses, and limited communication channels. The final section suggests agendas for one-, three-, and five-day courses.

PN-RAA-169

Paper copy \$10.92
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AGRICULTURAL ECONOMICS

(455) AN ANALYSIS OF THE ECONOMIC FACTORS AFFECTING THE SUCCESS OF SMALL FARM OPERATORS

Davis, Leroy; Jindia, Jaswant
1976, 12p.

Southern (CSD-3414 211(d))

Summarizes work to date on a study of socioeconomic characteristics of successful small farmers in Louisiana. The data presented in this report will be used in two subsequent papers to correlate shifts in farm production enterprises with farm size and location and to classify parishes by economic and sociological characteristics. The data was compiled from the 1964 and 1969 Censuses of Agriculture and covers a wide range of economic, social, demographic, and geographic factors which affect small farm areas. Other data was obtained from questionnaires sent to county agents, vocational agriculture teachers, and farmer cooperatives. Analysis of the census data indicates that: 1) While the marked decline in small farms is general, it is more pronounced for some races and geographical regions than for others. 2) There is a definite trend toward small farm crop specialization, which is likely to increase crop loss. 3) Small farm areas do not tend to be poorer than large farm areas, in fact, the reverse may be true. Data tables prepared from the questionnaire responses (collected from successful small farmers) include such information as farmers' plans to expand or sell farm, membership in farm organization or cooperatives, use of service organizations, and extent of farm-related reading.

PN-AAC-009

Paper copy \$1.44
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(456) IMPACT OF A LARGE SCALE COOPERATIVE-TYPE FARM ON SMALL AND INTERMEDIATE FARM FIRM

Davis, Leroy
1975, 15p.

Southern (CSD-3414 211(d))

Studies the effects of a large farm on nearby small and intermediate farms. The report notes that the impact of a large farm on a small farm community's equilibrium depends on the nature and extent of that community's market area. A discussion of key variables which define different market areas is provided. Next, the report describes the corporate farm and analyzes its typical impact on communities of small farms which lack the ability to organize for collective action. Large farm impact is discussed in terms of land values and demand, purchased inputs, the transportation system, product prices, farm custom service, and the labor and financial markets. The report concludes by suggesting action which can promote peaceful coexistence between neighboring large and small farms.

PN-AAC-012

Paper copy \$1.85
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(457) NEEDS OF A SERVICE ORIENTED LARGE SCALE FARM IN THE SMALL FARM SECTOR

Davis, Leroy
1974, 11p.

Southern (CSD-3414 211(d))

Delineates areas in which large farms can help neighboring smaller farms become more efficient. The report begins by enumerating some typical problems of small farm operation—land and capital are limited, labor is often provided by children and elderly family members. It is pointed out, however, that small family farms are not inefficient, but simply lack resources. The report argues that

small farms must be helped to remain solvent, as a decrease in the farm population imposes a considerable population and employment burden on nearby cities. The report suggests that large farms can help prevent small farm failure by acting as an early adaptor for new technologies or as a marketing, purchasing, and custom work agent, and by offering managerial advice.

PN-AAC-013

Paper copy \$1.32
Microfiche \$.93

(458) THE ECONOMIC IMPACT OF DROUGHT AND INFLATION IN THE SAHEL

Berg, Elliot
1976, 39p.

Mich. (CSD-2547 211(d))

Summarizes economic developments in the Sahel since the great drought of 1968-74. The paper is based on a 1975 report, *The Recent Economic Evolution of the Sahel*. The first section reviews the most evident effects of the drought, covering human mortality, physiological damage, and ecological changes. Livestock and agricultural losses are also discussed, as are adverse effects on export rate, national income, public sector finance, and the balance of payments. It is pointed out that the disaster gave rise to a few social benefits; it significantly expanded intra-Sahelian cooperation and focused world-wide attention on the ongoing needs of the Sahel. The second section describes income distribution changes caused by drought, inflation, and government policies. The report's conclusion details policy implications which arose from the drought and inflation. Agricultural expansion, appropriate use of food subsidies, and limits on livestock populations are recommended.

PN-AAC-740

Paper copy \$4.68
Microfiche \$.93

(459) THE RURAL CREDIT AND COOPERATIVE DEVELOPMENT PROJECT IN GUATEMALA

Davidson, J. R.
1976, 51p

AID SFR PM PS&CD

Describes three AID-funded rural cooperative services in the Indian highlands of Guatemala. The report first reviews the recent history of Guatemalan rural development and provides background information on the project's target group—low-income farmers living in extreme poverty on a limited arable land base. The report next discusses the role of cooperatives in providing farmers with access to credit services, marketing aids, and modern agricultural inputs. The remainder of the report describes the design and implementation of the three projects. In the first, AID sponsored the establishment (1971) of six small farmer cooperatives which in 1973 combined to form a federation, (FECOAC), which acts as a wholesale and marketing service. The growth and present operation of the second cooperative venture, the large credit union FENACOAC is discussed in detail and the services and membership characteristics of FECOAR and FENACOAC are compared. Finally, the third private organization, the Penny Foundation, is described; its primary purpose is providing loans to landless peasants currently beyond the reach of existing cooperatives.

PN-AAD-300

Paper copy \$6.12
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(460) MOBILIZING FINANCIAL SAVINGS AMONG RURAL POOR

Adams, D.W.
1975, 24p.

AID/TA/RD

Advocates the adjustment of financial market policies in less developed countries (LDC) to bring about a more equitable distribution of income. The discussion refutes the common assumption that the rural poor are not only generally unable to save money, but unwilling to do so when it is possible, and counters by citing evidence from case studies and farm record-keeping systems. These studies indicate that voluntary rural savings capacities in LDC's may be larger than originally estimated, and rural savings behavior may respond to economic incentives. Major supporting evidence is assembled from Taiwan, Korea, Japan, India and several African countries. The advantages of voluntary participation in rural savings programs are delineated in subsequent sections; it is argued that rural savings strengthen the financial market and local service organizations and improve household consumption decisions. Next, a strategy to popularize savings programs is outlined, stressing the importance, and defending the feasibility, of inflation-responsive interest rates and secure nationwide deposit insurance programs. An extensive bibliography is appended to the text.

PN-AAD-814

Paper copy \$2.88
Microfiche \$.93

(461) AGRICULTURAL EMPLOYMENT AND MIGRATION IN NORTHEAST, THAILAND; APPLICATION OF A REGIONAL PLANNING MODEL.

Rogers, K. D.; Itharattana, Prasit
1976, 60p.

Iowa State (AID/CM/sa-C-73-19)

Summarizes progress on numerous models to analyze incomes, labor migration, and employment in Thailand's agricultural sector. The project, conducted jointly by the Thai Division of Agricultural Economics and Iowa State University, is a subproject in a larger policy analysis covering the entire Thai economy. This report describes the range of models to be included in the subproject, and reviews the purpose and development of the subproject's first large-scale linear programming model, the Northeast Regional Model. This model's basic structural equations are provided and results are analyzed. One of the project's major findings is that dry-season unemployment affects much of the Thai labor force. In a discussion of policy implications, the report offers suggestions for providing wide employment opportunities to combat this off-season work shortage. Possibilities covered include the development of cottage industries and employment outside of agriculture, as well as the expansion of livestock production and irrigated areas.

PN-AAG-095

Paper copy \$ 7.20
Microfiche \$.93

(462) MACROECONOMETRIC ANALYSIS OF ECONOMIC ACTIVITY IN THAILAND, 1962-1974

Stephenson, J.A.; Itharattana, Kajonwan
1977, 85p.

Iowa State (AID/CM/sa-C-73-19)

Presents two macroeconomic models of Thai agriculture. The models constitute a transition phase in a sector analysis project undertaken jointly by the Thai Division of Agricultural Economics and Iowa State University to assess Thailand's economic policies, particularly those related to agriculture. The report opens with a brief history of the overall project and reviews the methodology of

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large econometric model construction. Special considerations regarding the construction of models for developing countries are also discussed. The report next provides detailed information on the two macroeconomic models. Model I is linear in parameters and in variables, Model II is linear in parameters and nonlinear in variables. Model equations are provided, accompanied by a discussion of equation specification. The report also provides results of a reduced form simulation of Model I and of a Gauss-Seidel simulation of Model II. Suggestions are offered for further research, and appendices give extensive data for each model.

PN-AAG-097

Paper copy \$10.20
Microfiche \$9.3

(463) AGRICULTURAL DEVELOPMENT PLANNING IN THAILAND; SOME SUPPORTING ANALYSIS

Frammingham, C.L.; Stoecker, A.L.; Khatikan, Kanok, Sriplung, Somnuk, Heady, E.O.
1977, 130p.

Iowa State (AID/CM/sa-C-73-19)

Summarizes and analyzes work to date on a joint agricultural planning project undertaken by Iowa State University and the Thai Division of Agricultural Economics. The report, which addresses issues related to Thailand's Fourth Five-Year Development Plan, begins by reviewing the current status of the Thai agricultural economy assessing such factors as labor force, available land, capital (including livestock, machinery, equipment), productivity levels, and farm incomes. The next section, which evaluates trends likely to affect future planning, takes into account population growth, technological progress, and land reform. The report then explains the approach used to select alternatives, which constitute models for policy analyses. Each alternative consists of a different set of assumed variables upon which different contingency plans are based. The alternatives ultimately adopted for study are described and analyzed. Finally, each of the alternatives is assessed in terms of its implications for income, employment, production, and exports. Extensive graphs, tables, and figures are appended.

PN-AAG-098

(464) SINGAPORE SYMPOSIUM; AGRICULTURAL SECTOR ANALYSIS IN THAILAND, PAPERS PRESENTED

Iowa State Univ. Ctr. for Agri. and Rural Development; Sem. on Sector Planning Models, Singapore, 1976
1977, 207p.

Iowa State (AID/CM/sa-C-73-19)

Contains seven papers presented at the Seminar on Sector Planning Models held in Singapore in 1976. The papers describe aspects of a joint project by the Thai Division of Agricultural Economics and Iowa State University to develop models to analyze Thai agricultural policy. Two of the papers address general issues related to the project, in one, the project's past, present, and future status is outlined; in the other, methods are suggested by which the policy analyst can best work with the government policy planner. Three of the papers describe specific models--the national crop model, the livestock model, and the transportation, storage and processing model for rice. The remaining two papers discuss applications of the regional crop model and future plans for agricultural sector analysis.

PN-AAG-101

Paper copy \$24.84
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(465) POTENTIAL EFFECTS OF CHANGES IN TRUCK TRANSPORTATION ON THE VALUE OF PRODUCTION AND INCOMES IN THAILAND'S RICE AGRICULTURE

Conley, D.M.; Vathana, Chamnong, Heady, E.O.
1978, 91p.

Iowa State (AID/CM/sa-C-73-19)

Measures the effects of variations in truck transportation costs on the Thai rice economy. The study is part of a joint effort by the Thai Division of Agricultural Economics and Iowa State University to analyze the Thai transportation infrastructure, particularly as it relates to agriculture. The report first describes current agriculture related use of the Thai transportation system, reviews the system's problems, and estimates the extent to which an improved system would promote agricultural development. Next, the report presents a linear programming model for rice transportation in Thailand, explaining its mathematical formulation, key assumptions, and delineation of geographical regions. The model's data for rice supply and utilization, as well as estimated costs for various modes of transportation, are provided. The model measures the potential economic impact of both 0-30% increases, and 0-30% decreases, in truck transport costs. The effect of such variations on farm income, rice value, and utilization of other forms of transportation is analyzed. Results are presented separately by region. The report includes a bibliography and numerous tables.

PN-AAG-103

Paper copy \$10.92
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(466) AGRICULTURAL SUPPLY RESPONSE IN NORTHEAST THAILAND; PRODUCTION, RESOURCES, INCOME, AND POLICY IMPLICATIONS

Rogers, K.D.; Itharattana, Prasit
1977, 75p.

Iowa State (AID/CM/sa-C-73-19)

Presents the Northeast Regional Model (NEREGON), part of a project conducted jointly by the Thai Division of Agricultural Economics and Iowa State University to develop a demographic and economic data base for analyzing Thai agricultural policy. NEREGON, the first in a series of six Thai regional planning models, is a normative supply study which focuses on the adjustment potential and socio-economic significance of four major crops (rice, kenaf, cassava, and maize) in the relatively poor northeastern region of Thailand. The purpose of this linear programming model, which was developed and validated against cross-sectional survey data, is twofold. First, it estimates the production response of each of the four crops under a wide range of assumed prices. Secondly, it assesses the impact that different market prices and production levels for each crop would have on employment, capital requirements, income, and the production of other crops. Each crop is examined individually, while all other factors are held constant. The report includes a mathematical description of the model and an analysis of the results for each crop.

PN-AAG-102

Paper copy \$9.00
Microfiche \$9.3

(467) CONSUMER DEMAND FOR FOOD COMMODITIES IN THAILAND

Dagostar, Bahram; Ellingson, W.D.; Heady, E.O.; Hoffman, R.A.
1978, 62p.

Iowa State (AID/CM/sa-C-73-19)

Analyzes the interdependent nature of demand for 18 agricultural products in Thailand, in order to provide a better basis for

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evaluating alternative agricultural policies. The study, conducted jointly by the Thai Division of Agricultural Economics and Iowa State University, has three principal objectives: to estimate the effect of prices and income on food consumption in Thailand, to provide analyses of various commodity groups, and to estimate demand coefficients at farm and market levels. The first section develops a model for empirically estimating food demand in Thailand at Bangkok prices. The estimation of direct cross-price elasticities and income elasticities for the commodities to be studied is then considered. In the second section the farm-retail price spread (the difference between the retail price of a product and its farm value) is analyzed. A method is demonstrated by which demand elasticities at one level of the system can be derived from knowledge of elasticities at another level. The demand coefficients obtained in the study are subsequently interpreted, the uses and implications of the study's findings are discussed, and recommendations are made for further research

PN-AAG-104

Paper copy \$7.44

Microfiche \$.93

(468) STRUCTURE OF A RECURSIVE MODEL FOR POLICY ANALYSIS IN THAILAND

Stoecker, A.L.; Nicol, K.J.; Sriplung, Somnuk
1978, 63p.

Iowa State (AID/CM/sa-C-73-19)

Summarizes initial work in constructing a recursive policy model with special applicability to Thai agriculture. The project is part of a larger joint effort by the Thai Division of Agricultural Economics and Iowa State University to develop a wide range of models, from farm-level to macroeconomic, for analyzing Thai agricultural policy. This report describes progress on linking the national and interregional linear programming model of agriculture with the macroeconomic model of the Thai economy. The recursive model will subsequently be developed from the linkage, and will be useful in relating agricultural policy to the non-agricultural sector and vice versa. In this report, previous research is reviewed, objectives of the linkage are summarized, and phases of the planning process (i.e. discussion, formulation, and monitoring) are explained. Then the three basic factors involved in the planned linkage are outlined. These are 1) an annual data update, 2) the structure and a data content of the agricultural model, and 3) the structure and data content of the macroeconomic model. Model equations, a bibliography, and a list of variables are appended.

PN-AAG-105

Paper copy \$7.56

Microfiche \$.93

(469) A SIMULATION MODEL OF THE WORLD RICE ECONOMY WITH SPECIAL REFERENCE TO THAILAND

Sarkar, Hiren
1978, 38p.

Iowa State (AID/CM/sa-C-73-19)

Develops a rice trade model which can be adapted according to economic and non-economic variables and which has particular applicability to Thailand. The model, devised by the Thai Division of Agricultural Engineering and Iowa State University, encompasses domestic rice production and use, foreign demand, and export price. To construct the model, countries are first classified as either exporters or importers; Thailand is considered to be an exporter. A set of structural equations is developed and used to construct a simulation model. Performance of this model is described. A stochastic simulation experiment is presented for short-term prediction of trade and export prices. Methods of forecasting under alternative conditions are discussed. General results of the model are assessed in the report's conclusion.

PN-AAG-140

Paper copy \$4.56

Microfiche \$.93

(470) SMALL FARM CREDIT PROFITABILITY AND REPAYMENT PROJECT; ADMINISTRATIVE REPORT, 1977/1978

Colo. State Univ. Dept. of Economics
1978, 77p.

Colo. State (AID/ta-BMA-6)

Reports progress and administrative activities of Small Farm Credit Profitability and Repayment Project at Colorado State University (CSU) for period September 1977-September 1978. The project aims to develop methodologies which credit institutions in the developing countries can use to carry out analyses to improve small farm credit policies, programs, and loan repayment. Contains (1) a statement of understanding between CSU and Oklahoma State University regarding cooperation in carrying out this project, (2) tentative work plans for project activities in Honduras and Nicaragua, (3) background of CSU's participation and responsibility for the project, (4) two proposals regarding data collection and analysis for small farm credit programs in Nicaragua, and (5) minutes of meeting of Project Management Committee (September 1978).

PN-AAG-238

Paper copy \$9.24

Microfiche \$.93

(471) AGRARIAN REFORM IN THE PHILIPPINES

Hickey, G.C.; Wilkinson, J.C.; Sem. on Agrarian Reform in the Philippines Washington, D.C., 1977
1978, 58p.

Rand (AID/ASIA-C-1284)

Evaluates the December 16-17, 1977 seminar conducted by the Rand Corporation in Washington, DC which reviewed the agrarian reform program (ARP) from 1976 to 1977 in the Philippines. The seminar participants concluded that the ARP is a failing program due to: program structure which prevents equitable land distribution and increased agricultural production; slow program implementation; opposition of small landlords; tenant's reluctance to participate; and lack of Marcos Government support. The lot of the rural population is worsening since they are not increasing rice production to keep pace with their annual population growth of up to 2.5%. Agricultural production is further threatened since the recent deforestation has resulted in expanding grasslands, watershed damage, and erosion. Most seminar participants felt AID should exercise its influence to increase the Philippine Government's level of commitment to ARP through both modified and direct support. Suggestions for direct support include: providing technical assistance in solving technical and management programs, such as land registration and filing; obtaining assistance of private agencies in the tenure-conversion process; encouraging tenants to participate by easing their heavy financial burdens through establishment of a rotating fund designed to subsidize initial costs; increasing marketing of agricultural good by improving rural roads and transportation; assisting with irrigation and electrification; and improving deforestation by establishing tree crops and restoring grasslands to agricultural use. Appendices include a list of seminar participants, an "agrarian reform's" monthly progress report, and a description of the structure of the Philippines ARP.

PN-AAG-256

Paper copy \$6.96

Microfiche \$.93

(472) THE ECONOMICS OF LOANS TO INFORMAL GROUPS OF SMALL FARMERS IN LOW INCOME COUNTRIES

Adams, D.W.
1978, 17p.

Ohio State (AID/ta-CA-2)

Examines the major issues involved in lending to small farmers. Loans to small farmers throughout the world have had

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disappointing results. Since small individual loans are costly, many borrowers have unsatisfactory loan collateral, and too many small loans are not repaid. Group lending, which has lower transaction costs and defaults, appears to be the most economically feasible. It also appears that at least 5 conditions must be met if group action is to be successfully elicited: (1) members must receive good service through the group at a reasonable cost; (2) productive goods or services should be convertible into profitable investments; (3) all must have equal access to services; (4) smaller groups can more satisfactorily respond to individual needs; and (5) groups must have political acceptance. Although not enough is yet known about group lending to small farmers, group performance presently appears best when: (1) short-term rather than long-term loans are made; (2) multipurpose rather than simple credit organizations are formed; (3) members are homogeneous; (4) single purpose loans are made; and (5) loans are made to well administered organizations. Bibliography is included.

PN-AAG-257

Paper copy \$2.04
Microfiche \$.93

(473) BORROWING COSTS FOR AGRICULTURAL LOANS IN LOW-INCOME COUNTRIES

Adams, D.W.; Nehman, Gerald
1978, 24p.

Ohio State (AID/ta-CA-2)

Despite the efforts by development agencies and LDC governments to direct increasing amounts of low-interest credit to the rural poor, relatively little additional loan capital has actually reached the target group. This report purposes that a major reason for this could be the inequitable borrowing costs imposed upon small farmer loan applicants by formal lending institutions. Borrowing costs are defined as the sum total of the interest payment, transaction costs, and changes in the purchasing power of the borrowed money. Transaction costs cover application fees (including bribes to loan representatives) and the time and travel expenditures incurred by the borrower during the application process. The conclusions of this report were derived from analysis of rural sector credit studies conducted in Brazil, Columbia, and Bangladesh by various consultants. It was found that much higher relative transaction costs are charged to the inexperienced, small borrower (the poorer farmer), these costs amounting to, on the average, more than half of the total borrowing costs. Perhaps to discourage the patronage of this group, small amount first-time borrowers are required to make numerous, troublesome visits to the lending institution during the application period. As the payment of the non-refundable application fee does not insure credit acceptance, applying for a loan is a costly gamble for the small farmer. Most low-interest loan money goes, therefore, to large, low-risk borrowers, i.e. the larger farmers, who are able to obtain such loans with minimal transaction costs and bother. Many small farmers must either do without loans or solicit credit from local, informal (non-bank) lenders. While interest rates for informal loans can be high, the total real expense involved often does not amount to much more than that entailed by the "lowinterest" formal loan. Credit from informal lenders is also easier to obtain, as is additional, emergency credit--a common necessity in a high-inflation economy. This report consequently recommends that flexible interest policies be introduced into agricultural sector credit programs. Higher nominal interest rates might discourage excess large farmer borrowing and help reduce the inflated transaction costs charged the smaller farmer. The net result, therefore, of an increase in interest rates on agricultural credit may be a reduction in the actual borrowing costs for the rural poor.

PN-AAG-258

Paper copy \$2.88
Microfiche \$.93

(474) FINANCING RURAL NONFARM ENTERPRISES IN LOW INCOME COUNTRIES

Meyer, R.L.
1978, 23p.

Ohio State (AID ta-CA-2)

Discusses the financial needs of rural, non-farm enterprises and analyzes how rural financial markets can better serve these needs. While most countries employ a variety of industrial promotion techniques, these techniques are geared principally to modern, large-scale, capital intensive firms. Small-scale firms frequently do not, or cannot, benefit. A number of factors are noted which may reduce the amount of credit available to non-farm enterprises. These include the heavy emphasis placed on farm credit in many countries; high risks in small enterprises perceived by lenders; administrative structure of some lenders giving little authority to branch staff to make loans; and the operational influence and attitudes of lenders. A number of options are suggested which would make general incentives more applicable to small-scale firms, and several issues are presented which must be considered to provide effective financial services in rural areas. Paper concludes that expanded financial services appears to be a promising way to reduce rural poverty, and that additional effort is needed to determine why existing financial intermediaries lend so little to non-farm firms. Paper also suggests that where rural financial markets are fragmented, efforts must be made to open both the savings and lending sides of the institution to broaden participation.

PN-AAG-259

Paper copy \$2.76
Microfiche \$.93

(475) RURAL FINANCIAL MARKETS IN THE DEVELOPMENT OF BANGLADESH

Adams, D W ; Nelson, G O.
1978, 32p.

Ohio State (AID/ta-CA-2)

Rural financial markets (RFM's) and loan policies to small farmers in Bangladesh are examined from the 1950's to 1978. Although Bangladesh has a great deal of development potential and the amount of rural loans has increased substantially, loans available to small farmers still lag far behind most lesser developed countries. The government has had little success in directing a large proportion of credit to rural areas due to loan repayment problems and the peasants' preference of securing credit from informal lenders rather than rural banks which require high user costs, loan delays, and repetitive visits to complete transactions. If Bangladesh is to solve her vast economic problems, however, formal loans handled by RFM's must be sharply expanded and strengthened to improve new crop technologies, water control and management, marketing and transportation facilities, land tenure, production incentives, education, local organizations, and modern inputs. RFM's could enable farmers to improve their resources, stabilize cash flows and household consumption, allow savings, and permit households to capitalize on economic opportunity. Yet, RFM's continue to play an insignificant developmental role because most rural credit needs continue to be met by informal lenders, thus discouraged RFM formation. Tables and a bibliography are included.

PN-AAG-260

Paper copy \$3.84
Microfiche \$.93

(476) RURAL HOUSEHOLD SAVINGS BEHAVIOR IN SOUTH KOREA, 1962-1976

Hyun, K.N.; Adams, D.W.; Hushak, L.J.
1978, 31p.

Ohio State (AID/ta-CA-2)

Study documents the extent of voluntary rural household savings in South Korea based on data from the "Farm Household

Economic Surveys" conducted by South Korea from 1962 to 1976. The study also uses this data to test a recently developed model for estimating permanent household income from cross-sectional data. The study concludes that farm households in South Korea have saved-voluntarily-a remarkably large part of their incomes since the early 1960's. During the late 1960's, these households saved, on the margin, about one-fifth of their permanent incomes and about four-fifths of their transitory incomes. The study also found that useful measures of permanent and transitory incomes can be estimated from cross-sectional data, and that these estimates can be helpful in better understanding savings behavior. The authors conjecture the reasons for the relatively high marginal propensities to save out of permanent income. One explanation relates to the parsimonious cultural traits unique to some oriental societies. Another explanation could be that other low-income countries simply lack reliable data on rural household savings behavior and that significant, unrecorded savings actually do occur. Lastly, South Korea appears to be very effective in providing savings incentives as well as offering convenient forms in which to hold savings. Policies which provide these incentives and opportunities could be largely transferable to other low-income countries. Report contains a 3-page listing of related references.
PN-AAG-261 Paper copy \$3.72
 Microfiche \$.93

(477) POLICY ISSUES IN RURAL FINANCE AND DEVELOPMENT

Adams, D.W.
 1977, 52p.

Ohio State (AID/ta-CA-2)

The author argues that current, rural financial market policies in low-income countries must be discarded as they are resulting in very inefficient allocation of resources, seriously discouraging the capital formation process, and causing major concentrations in income and asset ownership. Despite major expansion of financial services and extension of credit in low-income rural areas, most rural development policies are encountering serious problems. There are relatively tractable problems associated with management and training difficulties, but also weightier problems relating to unsatisfactory performance. The author presents nine instances of the latter set of problems, most of which are reducible to the effects of fixed interest rate policies combined with relatively high inflation rates. Utilizing the farm-household as a basic unit, an attempt is made to measure intended and unintended impacts in connection with variant credit and savings policies and with formal and informal leaders' behaviour. At the national policy level, two types of strategies are commonly employed in attempts to improve rural financial market performance, either new, specialized financial institutions are created to service the rural target group, or adjustments are made to the current system to induce greater attention to rural financial needs. Such adjustments might include loan supply increase; nationalization; loan size limits; lending quotas; loan guarantees; rediscount spreads; reserve requirements; allocation of government deposits or purchases of equity; or differential interest rates. The author discusses the strengths and weaknesses of both strategies and associated techniques. Policy adjustments urged by the author include greater emphasis on voluntary savings mobilization; more reliance on market mechanisms than on administrative fiat and concessional interest rates; and adoption of flexible, nominal interest rate policies and other incentives to induce a major portion of the market to service rural financial needs. An annotated bibliography is appended.
PN-AAG-262 Paper copy \$6.24
 Microfiche \$.93

(478) EVALUACION DE LA FUNCION RECIENTE DE LOS MERCADOS FINANCIEROS RURALES EN LOS PAISES DE BAJO INGRESO

Adams, D.W.
 1978, 27p.

Ohio State (AID/ta-CA-2)

Paper (in Spanish) evaluates the recent performance of rural financial markets in low-income countries. The author contends that despite a major expansion of financial services and extension of credit in low-income rural areas, most rural development policies are encountering serious problems. The paper provides a brief historical review of the evolution of views on rural financial markets and examines widely-held assumptions. Two groups of problems confronting rural financial markets are discussed; those relatively tractable problems associated with management and training difficulties, and weightier problems relating to unsatisfactory performance. The author presents nine instances of the latter set of problems, most of which are reducible to the effects of fixed interest rate policies combined with relatively high inflation rates. At the national policy level, two types of strategies are commonly employed in attempts to improve rural financial market performance; either new, specialized financial institutions are created to service the rural target groups, or adjustments are made to the current system to induce greater attention to rural financial needs. Such adjustments might include loan supply increase; nationalization; loan size limits; lending quotas; loan guarantees; rediscount spreads; reserve requirements; allocation of government deposits or purchases of equity, or differential interest rates. The author discusses the strengths and weaknesses of both strategies and associated techniques. Policy adjustments urged by the author include greater emphasis on voluntary savings mobilization; more reliance on market mechanisms than on administrative fiat and concessional interest rates; and adoption of flexible, nominal interest rate policies and other incentives to induce a major portion of the financial market to service rural financial needs. A bibliography is appended.
PN-AAG-263 Paper copy \$3.24
 Microfiche \$.93

(479) SMALL FARMER CREDIT PROGRAMS AND INTEREST RATE POLICIES IN LOW-INCOME COUNTRIES

Adams, D.W.
 1978, 24p.

Ohio State (AID/ta-CA-2)

This report examines the misconceptions surrounding small farmer credit programs in low-income countries and presents alternative suggestions for promoting small farm sector economic development. Particularly highlighted is the fallaciousness of low interest lending. While low interest rates do encourage more borrowing, financial institutions must lend most of this money to the larger and more experienced borrowers, ie, those most certain to repay the loans. The economic gap between the larger, farmer and small farmer is, therefore, widened, not reduced. In many areas, small farmers can obtain low-interest credit, but only if high loan transaction fees or, in some cases, bribes, are also paid to the lender. There is also a possibility that additional credit is not needed in the small farm sector. While it is commonly believed that informal (non-bank) lenders, numerous in the rural sector, generally charge usurious interest rates, recent research has disclosed that many, in fact, charge fair rates. Also, the repayment rate on such loans is better as the small farmer is, in effect, borrowing community-originated funds; he feels more personally obligated to pay back his neighbor's money than his government's. One of the most deleterious effects of the low-interest loan concept, however, is that institutions offering such loans are forced by consequence to pay low interest rates on savings accounts. The high inflation levels in low-income countries cost rural financial

For addresses of issuing offices see the Index of Issuing Offices at the rear.

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institutions losses on low-interest loans that must be made up at the expense of savers. With little incentive to save, the small farmer "invests" his money instead in his land or in personal property often overextending himself and therefore needing credit. It is believed that, given access to low-interest credit, small farmers would be encouraged to increase productivity and adopt modern farming practices. In fact, small farmers might only be encouraged to turn privately-owned land into loan collateral. In conclusion, this report argues against low-interest loans and conversely supports a flexible, though nominal, interest rate policy. Flexible loan rates would discourage unnecessary borrowing, stimulate formal lenders to seek out new loan business among the rural poor, and encourage savings. A four-page bibliography of related publications is contained at the end of this report.

PN-AAG-275

Paper copy \$2.88
Microfiche \$.93

(480) LESOTHO'S AGRICULTURE; A REVIEW OF EXISTING INFORMATION

Ntsane, Chaka; Eckert, J.B.; Lesotho Agr Sector Analysis Project Team; Colo State Univ. Dept. of Economics
1978, 180p.

Colo. State (AID/ta-BMA-6)

Reviews Lesotho's agricultural sector and the major forces affecting it. The report consists of eight sections which include an economic overview and a lengthy discussion of Lesotho's physical resources (primarily watersheds and grasslands). Considerable attention is given to the effects of population and educational, and nutritional levels upon agricultural development. The authors also delineate cropping and livestock systems, the system's current output, and the conservation concerns and efforts related to maintaining those systems. Lesotho's unique land tenure structure (in which the land and the produce thereof is considered to belong to the nation as a whole) and its dependency on South Africa for employment, are highlighted. Statistical tables and a bibliography of referenced publications are provided for each of the report's eight sections. The report is based almost entirely on existing data, reports and analyses. The authors note that while no new raw data are included, the existing material is occasionally retahulated in novel ways to emphasize a point.

PN-AAG-325

Paper copy \$21.60
Microfiche \$1.86

(481) BUILDING AN ECONOMIC ANALYSIS ORGANIZATION IN TUNISIA

1976, 56p.

Minn. (AID/afr-469 GTS)

Reviews and assesses a project undertaken by the University of Minnesota to assist the Tunisian Ministry of Agriculture in building a capacity to analyze the economics of agricultural development policies in Tunisia. The project emphasizes the importance of addressing immediate needs, developing Tunisian administrative capacities, and maintaining an analytical, rather than an advisory, approach. It next summarizes staffing considerations such as team size and composition. The project's administrative arrangements, i.e. work plans, budgeting, leadership, and communication with AID and the Tunisian government are subsequently evaluated, and the process of sending Tunisians to the U.S. for training in agricultural economics is explained. The report provides a candid and thorough assessment of problems encountered in cross-cultural information exchange, taking into account Tunisian-American degree equivalency, Tunisian courses of study at U.S. universities, and the French language training needed by the American economics team. The final chapter offers numerous recommendations regarding further development of the Tunisian economic analysis capacity.

PN-RAB-722

Paper copy \$6.72
Microfiche \$.93

RURAL DEVELOPMENT

(482) FINANCIAL INSTITUTIONS AND RURAL DEVELOPMENT

Lehr, D.J.; Horvitz, P M.
1976, 92p

AID/TA/RD

Examines the role of financial institutions and money markets in economic development, both in the U.S. and in predominantly rural, less developed countries (LDC). The analysis begins with a discussion of a theoretical "Robinson Crusoe" economy, which illustrates the most primitive means of shifting resources, and then moves on to discuss increasingly more sophisticated systems. Section II details the functions and institutions of the modern U.S. financial system, taking into account U.S. government financial policies. The next section analyzes the impact of financial markets on economic development, particularly on rural development in LDCs. The paper closes with policy guidelines for promoting rural development in LDCs. Appendices provide a bibliography and a model statute creating a rural development financing institution.

PN-RAB-738

Paper copy \$11.04
Microfiche \$ 93

(483) THE PLANNING AND IMPLEMENTATION OF RURAL DEVELOPMENT PROJECTS, AN EMPIRICAL ANALYSIS

Sobhan, Iqbal
1976, 104p.

AID/TA/RD

Examines policy and institutional issues central to the implementation of 22 rural development projects in Africa and 16 in Latin America. The report draws on data collected for a previous analysis undertaken for AID by Development Alternatives Inc. Specifically, a Factor Analysis method is used to mathematically reduce the original multicollinear set of variables to a smaller number of independent factors. The sample is confined to the 36 heterogeneous African and Latin American projects mentioned above; variables focus on rural development-related political, economic, and social conditions in a given project area and include measures of a given area's small farmer success rate. The report summarizes the completed Factor Analysis, which identifies three general functions of rural development project success: 1) degree of community participation, 2) extent of financial resource commitment, and 3) impact of contextual surroundings. Projects are ranked according to success indicator. The report also considers the study's implications for future policymaking. Finally, the paper presents conclusions and recommendations, stressing in particular the importance of active small farmer participation in decisionmaking. Appendices provide a list of projects, equations for the statistical model, a commentary on analytical method used, and a bibliography.

PN-AAD-639

Paper copy \$12.48
Microfiche \$1.86

(484) CONCEPTUAL OVERVIEW OF RURAL DEVELOPMENT

AID/TA/Working Group on the Rural Poor
1974, 50p.

AID/TA/RD

Reviews the philosophy of current AID rural development planning. The purpose of the paper is to initiate, and act as a basis for, discussion of AID rural development policymaking. Part I outlines significant theoretical assumptions derived from AID development literature and field experience. These assumptions, which underlie current rural development theory and practice, focus on the need for adequate transportation and financial services and the critical importance of small farms and business

firms to developing countries. Part II details strategic assumptions about rural development projects; essentially, a comprehensive program should be developed for each AID host country, providing supportive overall relationship among disparate sectors of development. This section also specifies target groups for AID programs and lists host country policies essential to the success of both AID and local projects. Part III examines areas of theory and practice which remain ill-defined and which lack a policy consensus. The report requests that AID personnel contribute their own comments about these issues, which include the focusing of resources, the relationship of public and private responsibilities, sequence and organization of development activity, the role of women, food production vs. equity, the role of AID, and political considerations. Part IV analyzes the major elements of rural development, emphasizing several elements currently receiving increased attention--regional planning, local participation, and the effective linking of planning and implementation. A short bibliography of books and articles to be sent to AID missions is included.

PN-AAD-807

Paper copy \$6.00
Microfiche \$.93

(485) A SPATIAL FRAMEWORK FOR RURAL DEVELOPMENT, PROBLEMS OF ORGANIZATION AND IMPLEMENTATION

Friedmann, John
1974, 47p.

AID/TA/RD

Describes a new approach to rural development for relatively poor, predominantly rural nations. The approach draws on the experiences of integrated rural development and colonization pilot programs from the early 1970's. The proposed approach is highly comprehensive in scope, featuring interrelated short- and long-term coordinating plans. Its operating emphasis is local, focusing on ways in which the small farmer and small town work can participate in development planning and implementation and provide mutually supportive service delivery systems. The approach is outlined in six sections. Section 1 summarizes reasons for the renewed concern with rural development; Section 2 details the chief distinguishing features of the proposed approach; Section 3 delineates the spatial, hierarchical organization of rural development and charts its characteristic flow of resources and information; Section 4 offers guidelines on choosing regions for development, Section 5 analyzes the structure of rural development organization, elaborating on the spatial description provided in Section 3. The final section identifies and discusses some of the problems likely to be encountered in implementing the proposed approach. The appendix lists principles for successful rural development, supplementary notes on the text, and a bibliography.

PN-AAD-810

Paper copy \$5.64
Microfiche \$.93

(486) AN APPROACH TO SPATIAL PLANNING FOR RURAL DEVELOPMENT

AID/TA/Working Group on the Rural Poor
1975, 34p.

AID/TA/RD

Analyzes the spatial organization of agricultural regions in order to assess priorities for rural development policymaking. The report begins by briefly reviewing the study of spatial organization, and then discusses regional planning, a major form of spatial organization activity. The regional planning process links local and regional projects and institutions to a long-term national program for balanced rural and urban development. The

importance of regional planning in the agricultural sector is strongly emphasized. Following this introductory material, the report presents a ten-part summary of key aspects of regional planning for agricultural areas. These aspects include the effect of regional planning on migration, the necessary preconditions for successful regional planning, criteria for choosing development regions, and the function of local industries and institutions in an overall regional plan. A short bibliography concludes the report.

PN-AAD-811

Paper copy \$4.08
Microfiche \$.93

(487) MARKET PRICE RELATIONSHIPS IN REGIONAL PLANNING FOR RURAL DEVELOPMENT

AID/TA/Working Group on the Rural Poor
1975, 48p.

AID/TA/RD

Examines mechanisms of market price variations and the influence of market price on the economic viability of rural development projects. The paper's introductory section stresses the need for economically feasible village and regional market development projects and suggests that a regional level analysis of market price would provide an information basis for such projects. The introduction next offers some economic background pertinent to market price analyses; typical questions in market development and farmer response to market price variations are discussed. This section also delineates, the "perfect market" model, a theoretical system in which prices do not vary by more than the cost of transfer, storage, and production. The next three sections analyze the three dimensions of market price which correspond to the "perfect market" model, i.e. the space, time, and form dimensions. Discussion of the space dimension addresses the effect of various transportation options on interregional price changes; analysis of the time dimension deals with the profitability of storing goods; the section on form dimension investigates the relationship between the price of a raw product and that of its several marketable alternatives. An appendix follows, providing recommendations for planning, implementing, and evaluating strategies for product market development based on space-time-form analyses. Specific applicability of such strategies to AID activities is also detailed.

PN-AAD-815

Paper copy \$5.76
Microfiche \$.93

(488) HIGHER MANAGEMENT CONTROL OF RURAL DEVELOPMENT PROJECTS

Blankstein, C.S.
1975, 42p.

AID/TA/RD

Proposes an information framework to 1) determine whether a given rural development project design will be practicable and effective; 2) identify potential operational problems while they can still be averted; and 3) assess a project's long-range effects. The first section of the paper reviews problems peculiar to rural development and argues that rural development projects are significantly different from conventional development projects. The second section discusses project design, implementation methods, and broad development effects in terms of basic project elements such as agricultural technology, credit, rural savings, rural industry, training, and marketing. The main points of this discussion are summarized in table form.

PN-AAD-816

Paper copy \$5.04
Microfiche \$.93

(489) MODERN MANAGEMENT SERVING HAITIAN AGRICULTURE; A MANAGEMENT DEVELOPMENT SEMINAR FOR SENIOR OFFICIALS

Sem. on Modern Management Serving Haitian Agriculture, Ouanga Bay, 1978; Int. Management Development Inst., New York
1978, 52p.

AGRICULTURE AND NUTRITION

IMDI (AID/Ia-C-1248)

Reports on the planning procedures, scheduled events, and subsequent evaluation of the Haitian seminar on management development. Held in January 1978, the seminar trained Haitian officials in the management techniques necessary to implement large-scale agricultural development projects. After summarizing the overall purpose of the seminar, the report reviews the seminar's preparation and presents a planners' list of issues to be included in the discussions. Next, the report analyzes the qualifications and experience of the trainers and participants. Criteria for selecting location, materials, and methods for the seminar are also outlined, and the format of lectures and discussions is explained. Finally, the seminar is evaluated in detail and recommendations are offered regarding future management training and personnel development programs. A syllabus, schedule, list of participants, and sample seminar evaluation forms are appended.

PN-AAG-090

Paper copy \$6.24
Microfiche \$.93

RURAL SOCIOLOGY

(490) SOCIAL SOUNDNESS OF AGRARIAN REFORM IN ETHIOPIA

Hoben, Allen
1976, 151p.

AID/PPC/PDA

Provides extensive sociological and historical data on small farmers in the Ethiopian highlands. This report will be used to predict response to AID programs for Ethiopian rural development. Emphasizing changes in land tenure patterns, the report draws on information from field trips, interviews with Ethiopian officials, and specialized scholarly studies. The first half of the report contains general information on the Ethiopian terrain, population, past and present land ownership patterns, and social stratification. Subsequent sections focus on the major events of the radical land reform program initiated in 1974. The varying responses to this land reform, which abolished private land ownership and instituted peasant land reform associations, are discussed in detail. The report concludes by suggesting methods by which AID can cooperate with the ongoing agrarian reform program in promoting rural development.

PN-AAE-958

Paper copy \$18.12
Microfiche \$ 93

(491) SOCIAL SOUNDNESS OF THE MASAI LIVESTOCK AND RANGE MANAGEMENT PROJECT

Hoben, Allen
1976, 89p.

AID/PPC/PDA

Updates and formally documents data pertaining to the Masai social organization and economy in order to evaluate the USAID Masai development project in Tanzania. The report's opening section stresses that Masai economic behavior is as rational and self-interested as that of any other society, despite current theories of Masai tradition-bound impracticality. The report then reviews the history of Masai economy, ecology, and society, pointing out that Masai economic behavior has typically been "reasonable from the individual decision-maker's perspective, even if it was not always consistent with national political and economic objectives." An assessment of Masai response to the current AID Tanzanian development project follows. It is noted that the most successful Masai projects are those which reward initiative, give the Masai some project responsibility, ensure their land occupancy rights, and do not entail high risk. The report concludes by reviewing key aspects of recent Masai development and recommending steps for further development action.

PN-AAE-959

Paper copy \$10.68
Microfiche \$.93

(492) SOCIAL SOUNDNESS ANALYSIS OF THE WEST BENOUÉ INTEGRATED RURAL DEVELOPMENT PROPOSAL, AND SUGGESTIONS FOR ALTERNATIVE INTERVENTIONS IN MARGUI—WANDALA

Hoben, Allen
1976, 76p.

AID/PPC/PDA

Constitutes part of a prefeasibility study of the proposed West Benoue Integrated Rural Development project. The project's purpose is to encourage 20,000 farm families in the heavily populated Mandara Mountain (Marqui Wandala) area of Cameroon to relocate in the underdeveloped, sparsely inhabited West Benoue Plains region. This prefeasibility study argues against the project, pointing out that the terraced farming currently practiced in the northern Mandara mountain region is laborintensive, ecologically sound, and benefits soil conditions. A decrease in population would seriously jeopardize maintenance of the terraced complex. Moreover, natives of the northern region are generally unwilling to leave their homeland. The report recommends that AID defer a feasibility study and, rather, provide interventions (wells, chemical food preservatives, health care delivery) for the northern region. The report supplements its discussion of the above findings and recommendations with historical and sociological data pertinent to the proposed relocation.

PN-AAE-960

Paper copy \$9.12
Microfiche \$.93

(493) WHAT SHALL WE GROW; A CRITICAL SURVEY OF THE LITERATURE ON FARMERS' DECISION MAKING

Bartlett, P.F.
1978, 69p.

AID/PPC/PDPR

Addresses three questions central to small farm land use decisionmaking, i.e., what to plant, how much to plant, and how to plant it. The review is restricted to major English language publications which are available in the U.S. and which discuss peasant agriculture, farming in developed countries or in tribal communities is not covered. In Section I, significant literature dealing with the effects of various physical, economic, and political environments on decision-making is considered. Section II contains critical analyses of studies on the impact of labor, population, capital, and risk factors on agricultural decisions, and emphasizes in particular the work of Boserup and Chayanov. Section III reviews studies of small farm efficiency and the degree to which personality, income, religion, and other sociological variables affect a farmer's willingness to innovate. The fourth section specifies areas in need of further research; essentially, the range of research topics should be expanded, research questions should focus on farmer attitudes and behavior, and studies should always employ a variety of research methodologies rather than assuming the validity of a single technique. A list of references and an extensive annotated bibliography of works on land use are appended to the text.

PN-AAG-158

Paper copy \$8.28
Microfiche \$.93

(494) SOCIAL SOUNDNESS ANALYSIS OF THE KASRAH/JARAWAN, TURAIF AND SHARQI— KOKAB/EL HOL RURAL WATER SUPPLY PROJECTS; DEIR EZ-ZOR AND HASAKEY PROVINCES, SYRIA

Asmon, I.
1978, 58p.

Checchi (AID/otr-C-1378 GTS)

Compiles extensive background information on three proposed projects to supply relatively inexpensive potable water to three Syrian rural communities. The report profiles the three project

AGRICULTURE AND NUTRITION

target areas, detailing population, population growth rate, living conditions, current water use patterns, ethnic composition, social structure, and other socio-economic information. The report then summarizes the essential scope and purpose of each project. This discussion covers the optimum placement of the water fountains, financial cost/benefit of the project, and procedures for selling the water. It is noted that the target populations should be regularly informed about the project's progress. Next, the project's benefits are delineated; these include a significant reduction in the cost of purchased water, more convenient locations for water buyers, and an overall decrease in the incidence of gastrointestinal disease related to the consumption of poor quality water. Appended tables contain present and projected population data for the target areas and include some technological specifications regarding fountain construction.

PN-AAG-237

Paper copy \$6.96
Microfiche \$.93

(495) A USER'S INVENTORY OF DATA SOURCES ON RURAL POVERTY IN CENTRAL AMERICA

Dommen, A.J.
1976, 116p.

Dommen (AID/otr-147-6060)

Presents an inventory of data sources on the rural poor of Central America (Costa Rica, Nicaragua, El Salvador, Honduras and Guatemala). The rural poor of these countries refers to subsistence farmers, renters of land, share-croppers, as well as wage laborers on cotton and sugar cane estates. One hundred and fifty-one variables (demographic, economic, agricultural, educational, migrational) are listed, and references to over 300 annotated data sources and their locations are provided. Also includes (1) a list of data sources by country on conditions of estate and plantation workers; (2) a list of data processing facilities by country; and (3) explanatory notes regarding the use of the inventory of data sources.

PN-AAG-241

Paper copy \$13.92
Microfiche \$1.86

(496) A PROFILE OF SMALL FARMERS IN THE CARIBBEAN REGION

Zuvekas, Clarence
1978, 17p.

AID/LAC/DR/RD

Presents a collection of statistical information on characteristics of small farmers and small-farm agriculture in the Caribbean region. The reliability and use potential of the data is evaluated, but this is not intended to be an analysis of the information provided. Information resources are the 1970 population census of the Commonwealth Caribbean, agricultural censuses (1971-75), and a series of small-farmer surveys in various Caribbean locations. Topics include: 1) farm household characteristics, 2) level of living indicators (income and income distribution, unemployment and underemployment, education, housing, water supply and toilet facilities, electricity, infant mortality, life expectancy, and nutrition, 3) land and land distribution, 4) production and production technology (crops and livestock, machinery, fertilizers and chemicals, family and hired labor), and 5) government services to small farmers.

PN-AAG-244

Paper copy \$12.84
Microfiche \$1.86

PLANT PRODUCTION

(497) REDUCTION IN SEED SIZE IN CROSSES BETWEEN WILD AND CULTIVATED COWPEAS

Rawal, K.M.; Rachie, K.O.; Franckowiak, J.D.
1976, 4p.

IITA (AID/ta-G-1185 GTS)

Studies the reduction in seed weight of F1 seeds obtained by crossing wild cowpeas and various elite cowpea cultivars. The research was conducted using accessions from the World Cowpea Germplasm Collection maintained at the International Institute of Tropical Agriculture, Ibadan, Nigeria; its purpose was to investigate mechanisms of evolutionary divergence at an infraspecific level in cowpeas. The paper lists accessions studied, explains the methodology used, and presents results of hand crossings. The marked reductions in seed weights and extremely weak F1 seedlings produced by the crossing indicates that a significant genetic barrier has developed between the wild and cultivated cowpea forms. It is suggested that the cultivated form is, therefore, not directly descended from the wild form, but that both the wild and cultivated forms evolved from a common weed form progenitor. A seed weight chart is provided.

PN-AAE-629

Paper copy \$.48
Microfiche \$.93

(498) TAIWAN'S SPECIALIZED VEGETABLE PRODUCTION AREAS, AN INTEGRATED APPROACH

Menegay, M.R.
1975, 25p.

AVRDA (AID/ta-G-1260 GTS)

Summarizes activities of the Specialized Vegetable Production Areas program initiated by the Joint Commission on Rural Reconstruction in Taiwan. The project was designed to improve Taiwanese vegetable production and marketing practices, thus increasing the summer vegetable supply and stabilizing vegetable prices. The report briefly discusses the objectives and organization of the project, in which vegetable growers located in productive regions were provided with technical and credit incentives to improve production methods. In addition, collective marketing systems were established to facilitate crop transport to the Taipei and Kaohsiang markets. The report also reviews the project's communications channels, sources of capital, and use of pesticides and fertilizers. A detailed description of the project's group marketing system is provided, along with data from interviews of project area leaders regarding their crops, work schedule, and degree of mechanization.

PN-AAE-676

Paper copy \$3.00
Microfiche \$.93

(499) AN ANALYSIS OF TRENDS IN FOOD AND COMMERCIAL CROP PRODUCTION, AREA, AND YIELD IN THE PHILIPPINES; 1954-1972

Receno, J.M.; Olalo, C.C.; Librero, A.R.
1976, 267p.

USDA/ERS (PASA RA (AJ) 13-71 Res.)

Compiles and discusses extensive data on recent variations in crop patterns and yields in the Philippines. The analysis will be used to help identify appropriate targets for programs to increase productivity. The report's introductory section describes the scope and methodology of the analysis, providing formulas for deriving annual production growth rates and other pertinent agricultural indicators. Data collection methods are also detailed. The principal section of the report is composed of individual analyses of trends in the major Philippine crops--rice, corn, fruits and nuts, root crops, cacao and coffee, coconut, sugarcane, abaca, and tobacco. Data for each crop covers national and regional changes in production, area, and yield, as well as the effects of regional crop area shifts on total national yield. The report concludes by summarizing and comparing major findings for each crop and evaluating various regions of the Philippines according to apparent agricultural trends.

PN-AAE-755

Paper copy \$32.04
Microfiche \$2.79

AGRICULTURE AND NUTRITION

(500) PROCEEDINGS OF THE INTERNATIONAL AGRICULTURAL MACHINERY WORKSHOP

Int. Agr. Machinery Workshop, Los Banos, Philippines, 1978, 216p.

IRRI (AID/ta-C-1208 GTS)

Presents 16 papers from a workshop convened by the International Rice Research Institute (IRRI) to discuss results of an ongoing program to facilitate the transfer of farm machine technology to manufacturers in 16 developing Indo-Asian countries. The program, initiated in 1974, is part of a larger Phillipine-based IRRI effort to increase world rice production by expanding the availability of rice agriculture machinery. Each paper was compiled by a national team of scientists, agricultural engineers, and manufacturers from one of the participating nations, and each deals with that country's present stage of agricultural technology, programs to improve mechanization, R&D projects, and future plans for agricultural development.

PN-AAG-168

Paper copy \$25.92
Microfiche \$2.79

(501) AVRDC, PROGRESS REPORT, 1977

1978, 94p.

AVRDC

(AID/ta-G-1260 GTS)

Summarizes research, training, and outreach activities conducted in 1977 by the Asian Vegetable Research and Development Center (AVRDC) in Taiwan. The text is prefaced by a brief commentary on AVRDC's overall research activities. Next, short individual reports on research conducted by AVRDC in 1977 on tomatoes, Chinese cabbage, white potato, sweet potato, mungbean, and soybean are provided. Research objectives are outlined for each crop, and experiments on yield, heat tolerance, disease and insect resistance, productivity, and germplasm improvement are discussed and illustrated with numerous tables, diagrams, and photographs. The concluding chapters summarize results of research to improve crop environment, farm management, marketing techniques, and nutritional content of vegetable crops, and review AVRDC's outreach programs.

PN-AAG-209

Paper copy \$11.28
Microfiche \$9.93

(502) THE ASIAN VEGETABLE RESEARCH AND DEVELOPMENT CENTER SWEET POTATO REPORT, 1976

AVRDC

1977, 58p.

AVRDC (AID/ta-G-1260 GTS)

Summarizes research conducted on sweet potatoes in 1976 at the Asian Vegetable Research and Development Center (AVRDC) in Taiwan. The report notes that, while sweet potatoes produce more food per hectare than does rice, and require minimal input and management, sweet potato production is at present declining rapidly in Taiwan. Increased availability of irrigation water has resulted in greater choice of crops; consequently, the durable sweet potato, long a staple item during famine years, is increasingly rejected as poor people's food. This report discusses research to improve taste and nutrition content of sweet potatoes, maintaining that sweet potatoes are an important resource in regions of fixed cultivation area and rising population. Included are an economic analysis of the declining market as well as results of tests on insect resistance and the effect of different concentrations of potassium and nitrogen in the soil. AVRDC's training programs and cooperation in international research programs are briefly reviewed. The appendix includes indexes of accessions and crosses, as well as test environment information.

PN-AAG-210

Paper copy \$6.96
Microfiche \$9.93

(503) THE ASIAN VEGETABLE RESEARCH AND DEVELOPMENT CENTER WHITE POTATO REPORT 1976

AVRDC

1977, 38p.

AVRDC (AID/ta-G-1260 GTS)

Summarizes research conducted on white potatoes during 1976 at the Asian Vegetable Research and Development Center (AVRDC) in Taiwan. The introductory chapter stresses the urgent need for expansion of world food resources and reviews AVRDC's ongoing effort to develop appropriate technologies for improving the production of tropical lowland crops. The report contains research reports on recurrent selection methods to increase heat tolerance in white potatoes, the single most important attribute required for tropical adaption of this vegetable. Experimental data on the pathology, physiology, and nutritional content of white potatoes is also presented. Information on international research cooperation and AVRDC training programs, personnel, and publications concludes the report.

PN-AAG-211

Paper copy \$4.56
Microfiche \$9.93

(504) THE ASIAN VEGETABLE RESEARCH AND DEVELOPMENT CENTER CHINESE CABBAGE REPORT, 1976

AVRDC

1977, 54p.

AVRDC (AID/ta-G-1260 GTS)

Summarizes research conducted on Chinese cabbage during 1976 at the Asian Vegetable Research and Development Center (AVRDC) in Taiwan. The report outlines the purpose and nature of AVRDC's research programs, which seek to develop appropriate technologies for improving crop production in tropical lowland areas. The cabbage experiments reported here cover breeding for heat tolerance, disease resistance, and improved plant population, as well as techniques for vegetative propagation through axillary bud culture. Fungicides and insect control measures (both biological and chemical) are discussed, and the beneficial effect of compost on cabbage yield is noted. Information on AVRDC's cooperation in international research is provided, and AVRDC training programs, personnel, and publications are reviewed.

PN-AAG-212

Paper copy \$6.48
Microfiche \$9.93

(505) THE ASIAN VEGETABLE RESEARCH AND DEVELOPMENT CENTER TOMATO REPORT, 1976

AVRDC

1977, 58p.

AVRDC (AID/ta-G-1260 GTS)

Summarizes research conducted on tomatoes in 1976 at the Asian Vegetable Research and Development Center (AVRDC) in Taiwan. The objective of the project is to develop new tomato varieties that can set fruit during the hot, rainy season in the tropics and feature high resistance to disease. The report presents heat tolerance and winter yield test results for new accessions and provides a diagram of a pollen collector developed to aid crossing. An evaluation of the resistance of various accessions to bacterial wilt, tomato mosaic virus, late blight, and other tropical diseases is given. The use of benzyladenine in reducing waterlog damage is described, and the effect of time of harvest on fruit quality is investigated. The report also includes crop and soil management recommendations and the results of fresh and processing tomato marketing studies. The report closes with information on AVRDC's training programs and cooperation in international research. A summary of environmental conditions for tests is appended, as are indexes of crosses and accessions.

PN-AAG-213

Paper copy \$6.96
Microfiche \$9.93

(506) PROCEEDINGS OF WORKSHOP ON PRE- AND POST-HARVEST VEGETABLE TECHNOLOGY IN ASIA

Workshop on Pre- and Post-Harvest Vegetable Technology in Asia, Los Banos, Philippines, 1977
1977, 157p.

AVRDC;(AID/ta-G-1260 GTS)

Contains papers presented at an international workshop jointly convened in February 1977 by the Asian Vegetable Research and Development Center (Taiwan) and the Southeast Asian Regional Center for Agriculture (Philippines). The workshop's overall purpose was to promote improved vegetable production, processing, and marketing techniques in Asia. It was attended by government and science representatives from Bangladesh, Nepal, Sri Lanka, Thailand, Indonesia, the Philippines, the Republic of China, the Republic of Korea, Japan, and the U.S. Papers reprinted in this collection address such topics as the need for an Asian Vegetable Research and Development information exchange network, and vegetable production and marketing techniques used in the conference's participant nations. The report concludes by presenting the text of a proposal to conduct uniform and simultaneous surveys on the vegetable industry in each of the conference participant nations

PN-AAG-214

Paper copy \$18.84
Microfiche \$1.86

(507) DEVELOPMENT AND SPREAD OF HIGH-YIELDING VARIETIES OF WHEAT AND RICE IN THE LESS DEVELOPED NATIONS

Dalrymple, D.G.
1978 (6th ed.), 147p.

AID/DS/AGR

Reviews the development of high-yielding varieties (HYV's) of wheat and rice in less developed countries (LDC's) from 1965-66 crop year, when these varieties first came into use, through 1976-77 and statistically documents their yearly spread. Major emphasis is placed on semi-dwarf varieties (1) developed at the International Maize and Wheat Improvement Center in Mexico and the International Rice Research Institute in the Philippines, and/or (2) offspring of these or similar varieties developed in national breeding programs. Data are compiled for individual developing nations, which have been grouped into four geographic regions: (1) Asia (South and East), (2) Near East (West Asia and North Africa), (3) Africa, and (4) Latin America. This is the 6th edition of this report (most recent, August 1976); it has been updated, reorganized and includes several additions.

PN-AAG-219

Paper copy \$17.64
Microfiche \$1.86

(508) CORN AND BEAN INTERACTIONS IN MIXED CULTURE; PROGRESS REPORT, JULY-SEPT. 1978

Clark, Ann; Shibles, Richard; Laing, Douglas; Iowa State Univ. World Food Inst.
1978, 9p.

Iowa State (AID/ta-G-1435 GTS)

Discusses progress on a study to determine the extent to which bean yield is affected when beans and maize are interplanted. The study considers maize: bean competition at both root and shoot levels. The major indicators of effect of competition are: (1) changes in bean yield, and (2) extent to which the maize population leaf canopy limits the light received by the bean population. It was discovered that both root and shoot levels of maize: bean competition affect bean yield. Furthermore, when the light received by bean plants is severely restricted by a dense maize population leaf canopy, beans became particularly sensitive to root level competition. The methodology of measuring light received by the bean population is detailed in the appendix.

PN-AAG-229

Paper copy \$1.08
Microfiche \$.93

(509) INTERPRETIVE ANALYSIS OF SELECTED PAPERS FROM CHANGES IN RICE FARMING IN SELECTED AREAS OF ASIA

IRRI
1978, 170p.

IRRI (AID/ta-G-1074 GTS)

Provides in-depth analyses and assessment of the initial findings and preliminary studies included in the 1975 International Rice Research Institute publication "Changes in Rice Farming in Selected Areas of Asia." Part I of this report analyzes data collected from 2,344 farm interviews in 36 study villages pooled into 14 major study areas in 6 South Asian nations. The project leader in each study area selected 1 to 3 villages to insure that in at least 1 village, conditions would be suitable for adoption of rice technology. Suitable localities had: 1) a controllable water supply sufficient for 2 or more crops per year, 2) access to technical inputs, and 3) access to markets. A random sample of 150 to 250 farmers was drawn from 1 to 3 villages in each study area. Interviews were conducted in 1975 and 1973. The original farm survey questionnaire is Appendix A of the 1975 "Changes..." report. The 14 major area studies were conducted over a broad geographic area and included a wide range of conditions under which rice is grown. Such variables as climate, farm structure, and irrigation that influence farming conditions are discussed. Average rainfall data for selected sites and basic characteristics of sample villages are shown in tables and graphs. The first chapter considers factors found to affect adoption of modern rice varieties. Chapters 2 and 3 treat the association between yield, fertilizer input, and factors which influence the level of fertilizer used. Chapter 4 discusses 2 equity issues — the effect of adoption of new technology on employment and the relationship between adoption of new technology and farm size. Potential biases that may have resulted from non-random selection of sites and villages were taken into account. Part II contains 5 special reports describing critical problems related to introduction of modern rice technology. Appendices following Part I provide a detailed record of relevant information on each village which the authors believe will be useful to future researchers in South Asian rice production.

PN-AAG-252

Paper copy \$20.40
Microfiche \$1.86

(510) A HANDBOOK ON THE METHODOLOGY FOR AN INTEGRATED EXPERIMENT-SURVEY ON RICE YIELD CONSTRAINTS

De Datta, S.K.; Gomez, K.A.; Herdt, R.W.; Barker, Randolph
1978, 65p.

IRRI(AID/ta-G-1074 GTS)

Presents a methodology for analyzing constraints to increased rice production in farmers' fields. Methodology is the result of a 4-year multidisciplinary research project to study rice yield constraints by a team of agronomists, economists, and statisticians from the International Rice Research Institute (IRRI) and by 6 cooperating national teams. The methodology presented in the handbook will give researchers answers to the following questions: (1) What is the gap between farmers' present yields and the highest potential yield for their fields after predetermined production factors are modified? (2) How much of the yield gap can be attributed to each of the predetermined production factors (3) What are the differences in costs and returns? (4) How much of the yield gap can be profitably recovered? (5) If the inputs that are most profitable differ from the actual inputs used by farmers, what personal, social, institutional, or political factors keep farmers from using the most profitable levels? Handbook discusses the selection of study area experimental sites, and factors to be tested (such as fertilizer, weed control, and insect control). Sample survey questionnaires are presented and illustrative analyses are performed on constraint data.

PN-AAG-274

Paper copy \$7.80
Microfiche \$.93

AGRICULTURE AND NUTRITION

PLANT PROTECTION

(511) WORLD-BIRD DAMAGE PROBLEMS

De Grazio, J.W.

1978, 17p.

Interior (PA/ID/TAB-473-1-67)

There is a lack of information on bird-caused economic losses on a worldwide basis. Some estimates are available for specific problems in the United States, Canada, and parts of Oceania and Europe, but loss estimates are almost totally lacking in Latin America, Asia, and Africa. To justify development of control programs, it is desirable that reliable data on losses be obtained. Such data are helpful at all levels of decision-making about bird control, from research to implementation.

Bird damage situations throughout the world are similar, involving many of the same crops and genera of birds.

This report summarizes major damage problems reported for each continent in tabular form. Agricultural problems are emphasized, other examples are given including bird hazard to aircraft, predation by undesirable species, urban and rural roost problems, birds as carriers or transmitters of disease, and beneficial aspects of some species.

Control methods are not reviewed

PN-AAG-356

Paper copy \$2.04

Microfiche \$.93

(512) DEGRADATION OF 4-AMINOPYRIDINE-14C IN CORN AND SORGHUM PLANTS

Starr, R I.; Cunningham, D.J.

1975, 3p.

Interior (PASA RA (ID) 1-67 Res.)

Evaluates the extent of breakdown of absorbed and translocated 4aminopyridine-14C in young corn and sorghum plants grown for short periods in treated nutrient cultures. 4-AP is a toxic chemical used to frighten birds away from crop and urban areas; when birds ingest corn treated with 4-AP they exhibit pronounced distress reactions which induce other birds to leave the area. This study investigates the possibility of dangerous increases in the toxicity of treated corn and sorghum over a two week period. The report details procedures for treating corn and sorghum with 4-AP, explains the autoradiogram toxicity testing methodology, and presents preliminary results. These early data indicate that the 4AP absorbed and translocated by corn and sorghum plants is not appreciably degraded to more toxic products on to two weeks after treatment. The study does, however, recommend further investigation into possible conjugate formation of 4aminopyridine with plant sugars and/or amino acids

PN-RAA-634

Paper copy \$.36

Microfiche \$.93

(513) LEACHING AND DEGRADATION OF 4AMINOPYRIDINE-14C IN SEVERAL SOIL SYSTEMS

Starr, R I.; Cunningham, D.J.

1975, 12p.

Interior (PASA RA (ID) 1-67 Res.)

Investigates the behavior of 4-Aminopyridine 14C (4AP) in seven soil systems. 4AP is a chemical frightening agent used to control bird damage to crops; when birds ingest corn baits treated with 4AP they emit distress calls, causing other birds to leave the treated area. The purpose of this study is to determine whether dangerous quantities of 4AP are likely to be leached from treated corn baits and subsequently absorbed into crop roots. The paper describes procedures for measuring leaching of 4AP in alkaline and acidic soils and for investigating the rate and nature of 4AP breakdown under a wide variety of soil and temperature conditions. It is concluded that (1) 4AP is first converted to 4-hydroxypryridine,

then to a pyridine diol, and eventually into CO₂ (half-life ranges from 3 to 22+ months), and that (2) 4AP and its metabolites are readily absorbed into soil colloids and therefore relatively unavailable for root absorption.

PN-RAA-635

Paper copy \$1.44

Microfiche \$.93

(514) PHYTOTOXICITY, ABSORPTION, AND TRANSLOCATION OF 4-AMINOPYRIDINE IN CORN AND SORGHUM GROWING IN TREATED NUTRIENTCULTURES AND SOILS

Starr, R.I.; Cunningham, D.J.

1974, 5p.

Interior (PASA RA (ID) 1-67 Res.)

Reports results of experiments on the possible phytotoxicity of corn and sorghum grown in areas treated with aminopyridine (4AP). 4AP is a chemical frightening agent used to control bird damage to crops; when birds ingest corn baits treated with 4AP, they emit marked distress signals, causing other birds to leave the crop area. This paper provides a detailed description of experiments to determine whether dangerous amounts of 4AP can be absorbed from soil in treated areas and translocated within corn and sorghum plants. The tests entailed both liquid scintillation and audiographic analyses of 4AP-treated seedling tissue. In addition, the translocation of 4AP from treated nutrient cultures and soil nutrient cultures and soil into plant tissues was investigated. 4AP was shown to be easily absorbed onto soil colloids and is consequently unlikely to accumulate in plant roots. In addition, 4AP did not readily translocate within plants. It was therefore concluded that detectable quantities of 4AP would not be present in corn and sorghum grown under low-dosage field conditions

PN-RAA-636

Paper copy \$.60

Microfiche \$.93

LIVESTOCK

(515) VAMPIRE BATS AND THEIR EFFECT ON CATTLE PRODUCTION IN LATIN AMERICA

Kverno, N B ; Mitchell, G.C.

1976, 7p.

Interior (PASA RA (ID) 1-67 Res.)

Reviews results of studies on the effectiveness of diphenadione in reducing vampire bat populations and the incidence of battransmitted rabies in cattle. Sponsored by the Denver Wildlife Research Center, the diphenadione project was begun in 1972 in Mexico and has since been expanded to include Brazil, Bolivia, Columbia, Costa Rica, Ecuador, Guyana, Panama, Venezuela, and Nicaragua. This report outlines the vampire bat problem in South America and describes the use of diphenadione for both topical treatment of bats and systemic treatment of cattle. The recent history of control measures in each of the countries listed above is briefly summarized and objectives, methods, and results of the particularly extensive and successful Nicaraguan campaign are described in detail.

PN-AAC-771

Paper copy \$.84

Microfiche \$.93

(516) THE BIOLOGY AND CONTROL OF VAMPIRE BATS

Linhart, S.B.

1975, 21p.

Interior (PASA RA (ID) 1-67 Res.)

Summarizes the natural history of the vampire bat and its role as a rabies transmitter and economic pest. Former vampire bat control methods and recent control efforts of the Denver Wildlife Research Center are also presented. The article begins by discussing the range, density, and general characteristics of

vampire bat populations, and details the effect of vampire bat predation on cattle in South America. Relatively unsuccessful past vampire bat control measures using explosives, fumigation, poisoning, vaccination, and mist nets are reviewed. The report next describes preliminary research and field tests conducted in 1978 at the Denver Wildlife Research Center on the use of anticoagulants such as dipehenadione to control vampire bats in Mexico. Two highly successful strategies were developed. In one, an anticoagulant is topically applied to captured bats. Who then return to their colony, where other bats ingest the anticoagulant during grooming. In the alternative method, cattle are injected with diphenadione, which is subsequently injected by the bats. Both methods are deemed safe and target-selective.

PN-AAD-700

Paper copy \$2.52
Microfiche \$ 93

(517) THE USE OF WASTE BANANAS FOR SWINE FEED

Clavijo, Hector; Maner, J.H.
1974, 20p.

CIAT (AID/ta-G-1090 GTS)

Summarizes results of tests to evaluate the suitability of fresh and dried bananas for swine feed. The report notes that much of the world banana crop does not meet commercial standards for human consumption, but could provide nutritious and economical source of livestock feed. The tests in this report found that, while green and ripe bananas have the same digestion coefficients, ripe bananas are preferable because pigs tend to eat greater quantities of them. It is recommended that a protein supplement be used with all forms of banana feed. The report discusses the nutritional composition of banana feed, and provides tables comparing growth rates of pigs fed on various combinations of banana feed and protein supplement. The preparation and energy value of dried banana meal is also covered. It is concluded that, if properly supplemented with protein, vitamins, and minerals, bananas can provide a nutritionally adequate feed base for pigs at most stages of development.

PN-AAE-769

Paper copy \$2.40
Microfiche \$.93

(518) ANALYSIS AND OVERVIEW OF POULTRY SUB-SECTOR IN THE YEMEN ARAB REP.

Miller, P.C.; Rogalla, John
1978, 91p.

Ga. Polytech. (AID/NE-C-1204)

Provides an overview of the USAID-supported poultry industry in Sana's and Taiz, Yemen, and gives recommendations to assist in its growth. During the period 3/8/78 - 4/7/78, the authors visited all large and medium poultry operations in the country as well as several small operations. They interviewed managers and owners, performed a limited demand survey in Sana's, and collected price information. Inputs to the poultry industry, their costs and availability, are detailed. Budgets and cost/benefit ratios are developed for village and commercial flocks of medium and large sizes, for both egg and poultry production. Yemen's poultry industry is based on imports - chicks, feed, equipment, technical assistance, medicants, building materials, and many other production items. The greatest weakness in the poultry industry is the lack of basic husbandry knowledge. Common problems discovered were: lack of ventilation, crowded conditions, and poor quality feed. This is where the USAID project can be most effective; i.e., in training poultrymen and extension agents. Also, the Yemen government should establish a poultry extension service. The authors predict that, in the future, broiler production, with its higher profit potential, will expand greatly. Egg production will begin and increase at a slower rate due to the importation of the competitive product. The report includes 23 appendices describing the current status of Yemen's poultry industry and the projected production and import of poultry meat and eggs, as well as proposed locations and methods of operation.

Also appended are a bibliography and a list of individuals who contributed to the report.

PN-AAG-326

Paper copy \$10.92
Microfiche \$.93

(519) FORAGE RESOURCES FOR RUMINANT LIVESTOCK PRODUCTION SYSTEMS

Mott, G.O.
1976, 12p.

Fla. (CSD-3684 211(d))

Analyzes the current status of forage in livestock production in Guyana. The report briefly describes the range of forage species occurring in Guyana and notes that these grass species have unusual tolerance for Guyana's poor soil conditions (low pH, high level of exchangeable aluminum and magnesium and low phosphorus content). It is suggested that Guyanan soil productivity could be significantly improved by the addition of a small amount of lime. The report next explains the relationship of animal production per unit area of land to 1) the usable forage produced per area of land, 2) forage quality, and 3) the animal's potential rate of forage consumption. The report closes with suggestions for the development of cultivars suited to the Guyanan soil and climate. The text is supplemented by several figures and tables illustrating aspects of the forage system.

PN-RAB-616

Paper copy \$1.44
Microfiche \$.93

(520) PHOSPHORUS SUPPLEMENTATION FOR INCREASING REPRODUCTION IN CATTLE

Conrad, J.H.
1976, 12p.

Fla. (CSD-3684 211 (d))

Reviews major available data on the effect of phosphorus on cattle growth and reproduction rates. The general effects of insufficient phosphorus levels in cattle are outlined; these include loss of appetite, unusual behavior, and lowered reproduction rates. The report also lists the daily phosphorus requirements of cattle at different weights and cites several studies which strongly indicated that significant gains in calf crop and calf weight can be achieved through the use of phosphorus supplements. Numerous tables accompany the text, listing the protein, calcium, and phosphorus content of texan forage plants and providing experimental data on phosphorus supplements.

PN-RAB-617

Paper copy \$1.44
Microfiche \$.93

SOIL RESOURCES

(521) EFFECTIVENESS OF RHIZOBIA—LEGUME ASSOCIATIONS

Frederick, L.R.
1978, 13p.

AID/DS/AGR/TSWM

Effectiveness of rhizobia-legume associations in dinitrogen fixation depend on susceptibility of the host legume to nodulation, infection by an effective strain of *Rhizobium* and conditions favorable for plant growth. Effectiveness ratings of rhizobial strains are confounded by variability in host genotype, variability in rhizobial culture, number of inoculated rhizobia, mineral nutrition and photosynthetic process, all of which are usually indicated by dry matter production. Response of legume production to N fertilization indicates opportunity to improve effectiveness of the association. Proper rhizobia-legume associations can apparently obtain from N₂ all the N needed to match photosynthetic activity. Research is needed to provide and maintain proper associations for all legume crops, and to achieve adequate inoculation where needed.

PN-AAG-128

Paper copy \$1.56
Microfiche \$ 93

AGRICULTURE AND NUTRITION

(522) SOLUTION ACTIVITIES OF ALUMINUM AND SILICON IN HIGHLY WEATHERED SOILS THAT CONTAIN GIBBSITE AND KAOLINITE

Weaver, R.M.; Bloom, P.R.
1977, 5p.

Cornell (CSD-2490 Res.)

Solution activities of aluminum (Al^{3+}) and monosilicic acid ($Si(OH)_4$) in dilute acid suspensions of six Brazilian Oxisols were measured over a period of 145 days. The steady state activity function of $pH-1/3pAl$ ranged from 1.86 to 2.69, while that of $pSi(OH)_4$ ranged from 3.69 to 4.22. Although all of the soils contained kaolinite and gibbsite, the observed slute activity functions of $pH-1/3Al$ and $pSi(OH)_4$ deviated considerable from those expected for a thermodynamic equilibrium between gibbsite and kaolinite. It was found that the solution activities of Al and $Si(OH)_4$ in these soils appeared to result from the dissolution of a surface aluminosilicate component (R) of variable composition rather than gibbsite and kaolinite.

PN-AAG-154

Paper copy \$.60
Microfiche \$ 93

(523) WEST AFRICAN FERTILIZER STUDY; VOL. II: SENEGAL

Int. Fertilizer Development Ctr. West Africa
Study Team. Florence, Ala.
1977, 67p

IFDC (AID/afr-C-1176)

A series of severe droughts in the late 1960's and early 1970's greatly reduced agricultural production in the Sahelian countries of West Africa. In response, USAID requested the International Fertilizer Development Center to determine the region's capacity to produce, market and use fertilizer. A series of documents (of which this report on Senegal is a part) resulted from that assessment. Topics covered include population, food production, current marketing and use of fertilizer and crop yield responses to specific fertilizers. Forty-eight statistical tables corresponding to these topics are provided, including cost: price and value: cost ratios. The authors recommend implementation of a concentrated soil-fertility project (in liaison with current research and extension groups) to determine crop responses to fertilizer nutrients especially phosphate rock on small and medium-sized farms. In addition, the authors recommend an inquiry into the possibility of substituting widely-used, low analysis fertilizers with a few high analysis grades to meet total crop production needs and eliminate the wide range of fertilizer costs affecting Senegalese farmers. Publications (both in French and English) used in preparing the report are referenced. Appendices on fertilizer raw material deposits and recommended projects are also included.

PN-AAG-270

Paper copy \$8.04
Microfiche \$.93

(524) WEST AFRICA FERTILIZER STUDY; VOL. V: NIGER

Int. Fertilizer Development Ctr. West Africa Study Team.
Florence, Ala.
1978, 50p.

IRDC (AID/afr-C-1176)

A series of severe droughts in the late 1960's and early 1970's greatly reduced agricultural production in the Sahelian countries of West Africa. In response, USAID requested the International Fertilizer Development Center to determine the region's capacity to produce, market and use fertilizer. A series of documents (of which this report on Niger is a part) resulted from that assessment. Topics covered include population, food production, current marketing and use of fertilizers and crop yield responses to specific

fertilizers. Thirty-eight statistical tables corresponding to these topics are provided, including cost: price and value: cost ratios. The authors recommend implementation of a concentrated soil fertility project (in liaison with current research and extension groups) to determine crop responses to fertilizer nutrients especially phosphate rock on small and medium-sized farms. In addition, efforts should be directed toward improved agricultural statistical reporting. The authors also recommend that the GON investigate other sources of funds and technical assistance if present plans to develop a mining and grinding facility for phosphate rock and to explore if Parc W deposits do not materialize. Publications (both in French and English) used in preparing the report are referenced. Appendices on fertilizer raw material deposits and recommended projects are also included.

PN-AAG-271

Paper copy \$6.00
Microfiche \$ 93

(525) WEST AFRICA FERTILIZER STUDY; VOL. VI: CHAD

Int. Fertilizer Development Ctr. West Africa Study Team.
Florence, Ala.
1977, 59p.

IFDC (AID/afr-C-1176)

A series of severe droughts in the late 1960's and early 1970's greatly reduced agricultural production in the Sahelian countries of West Africa. In response, USAID requested the International Development Center to determine the region's capacity to produce, market and use fertilizer. A series of documents (of which this report on Chad is a part) resulted from that assessment. Topics covered include population, food production, current marketing and use of fertilizers and crop yield responses to specific fertilizers. Thirty-one statistical tables corresponding to these topics are provided, including cost: price and value: cost ratios. The authors recommend implementation of a concentrated soil fertility project (in liaison with current research and extension groups) to determine crop responses to fertilizer nutrients—especially phosphate rock on small and medium-sized farms. An aerial radiometrics study of the Bahr-er-Ghazel area should be made to determine the most promising areas to prospect for phosphate rock. The authors also recommend establishing a low-technology, bulk-blending facility which utilizes imported granular fertilizers. In addition, agricultural research should be strengthened particularly that focussing on adapting varieties, defining appropriate plant associations and rotations, and solving the symbiotic weed problem in sorghum and millet. Publications (both French and English) used in preparing the report are referenced. Appendices on the following subjects are also included: Projected Fertilizer Consumption for Crops for 1978-1985, Fertilizer Raw Material Deposits and Recommend Projects.

PN-AAG-272

Paper copy \$7.08
Microfiche \$ 93

(526) WEST AFRICA FERTILIZER STUDY; VOL. VII: MAURITANIA

Int. Fertilizer Development Ctr. West Africa Study Team.
Florence, Ala.
1978, 40p.

IFDC (AID/afr-C-1176)

A series of severe droughts in the late 1960's and early 1970's greatly reduced agricultural production in the Sahelian countries of West Africa. In response, USAID requested the International Fertilizer Development Center to determine the region's capacity to produce, market and use fertilizer. A series of reports (of which this report on Mauritania is a part) resulted from that assessment. Topics covered include population, food production, current marketing and use of fertilizers and crop yield responses to specific fertilizers. Seventeen statistical tables corresponding to these topics are provided, including cost: price and value: cost ratios. The authors recommend implementation of a concentrated soil fertility project (in liaison with current research and extension

groups) to determine crop responses to fertilizer nutrients especially phosphate rock on small and medium-sized farms. A detailed survey of known phosphate deposits should be made. The cost of grinding phosphate rock for direct application should also be studied. Other activities recommended by the authors include an in-depth analysis of social costs and benefits resulting from expansion of land area in production as compared with increasing productivity per unit; and an assessment of the status and needs of extension, credit and crop marketing institutions; and a study to identify ways to improve agricultural statistical reporting. Publications (both in French and English) used in preparing the report are referenced. Appendices on fertilizer raw material deposits and recommended projects are also included.

PN-AAG-273

Paper copy \$4.80
Microfiche \$9.3

(527) PROPERTIES AND POTENTIALS OF SOILS IN THE AMAZON BASIN

Van Wambeke, Armand
1978, 11p.

Cornell (AID/ta-C-1104 Res.)

This paper highlights the diversity of the soils in the Amazon basin and their distinct potentials for development. Land evaluation, based on land qualities, is employed as a means of suggesting optimum land uses.

Soils of the hot lowland rainy humid tropical climates share a common soil moisture regime, and a uniform soil temperature regime. The soil qualities are highly correlated with the degree of weathering. The more highly weathered soils, while often having a physical structure favorable to plant growth, are nutrient-poor and drought susceptible. Soft plinthite is only found to be a problem in 2% of the soils. More important limits on plant root-system development include surface erosion, and calcium deficiency or aluminum toxicity which prevents deep rooting.

Nutrient supplies are small in the highly weathered soils. While the mineral fractions of most are very poor in nutrients, the soils have varying levels of soil organic matter. As long as the natural cycle of nutrients through roots into plant tissues and from plant residues back into the soil is uninterrupted or is closely simulated, the intrinsic fertility of those soils can be preserved. Changes in the ecology, however, can quickly deplete these soils.

Development alternatives include intensification of agriculture by fertilizers, or adapting land use to the environment by crop adaptation more attention should be given to permanent agricultural production systems before the illusion of limitless land resources in the area leads to the irreversible destruction of soils and creation of fertility deserts.

Soil conservation and erosion prevention are crucial variables in the development of the area. There is reason for optimism in the development of the Amazon basin if planners and scientists work together to maximize the efficient and conservative use of its resources.

PN-AAG-355

Paper copy \$1.32
Microfiche \$9.3

(528) EFFECT OF DEPTH OF LIME APPLICATION ON YIELD AND FOLIAR COMPOSITION OF SOYBEANS GROWN ON A TYPICAL ULTISOL OF PUERTO RICO

Perez-Escobar, Raul; Lugo-Lopez, M.A.; Scott, T.W.
1978, 9p.

Cornell (AID/ta-C-1104 Res.)

The effects of lime applied at 20, 40, 60 cm depths, and calcium nitrate applied in the top 20 cm, in terms of yield of two soybean crops, Jupiter variety, and on the factors of soil acidity in Humatas clay (a typical upland Ultisol of Puerto Rico) were determined. Highly significant and significant correlations between soybean yield and factors of soil acidity of the topmost 60cm. of the soil

profile were measured in the first and second crops, respectively. A straight line equation best described the results. As long as 33 months following the lime application in treatments bearing lime in the top cm. layer, increases of soil pH and bases and subsequent decreases in the exchangeable aluminum content of the 20 to 40 cm layer beneath were evident and indicative of lime movement.

PN-AAG-383

Paper copy \$1.08
Microfiche \$9.3

WATER RESOURCES

(529) CREDIT FOR IRRIGATION EQUIPMENT IN THE JORDON VALLEY

Maddock, W.J.
1977, 36p.

Maddock (AID/NE-C-1343)

Reports on progress in development of loan project providing credit to small farmers for purchase of equipment to irrigate 931 hectares in the Jordon Valley. The loan-financed equipment will include portable pipes, filters, gauges, couplers, valves fittings and sprinkler heads. The Jordon Valley Association (JVA) will manage and distribute the equipment to 3 selected farm units. The Agricultural Credit Corp (ACC) will execute credit or cash sale agreements with the farmers. Technician and farmer training is included as a project element. The report is based on discussions with AID, JVA and ACC officials. A copy of the administration agreement resulting from these discussions, job description (for proposed US advisors), a brief bibliography and a partial listing of the officials contacted are included in the report. The organizational structure for implementing the sprinkler equipment program seems to be in place and construction of fixed water delivery systems is underway. The author recommends higher agricultural interest rates, noting that the rate currently charged by ACC does not cover its own cost of borrowed capital or its operating expenses. He also recommends consideration of agricultural price supports, improved marketing services and subsidized fertilizer supplies. The requirement calling for a first real estate lien as collateral for seasonal loans should be relaxed. (This has been a major obstacle to the provision of credit to small farmers-- whose lands are insufficient as security.) Increased emphasis upon effective farm production planning and farmer follow-up supervision are among the author's other recommendations.

PN-AAG-327

Paper copy \$4.32
Microfiche \$9.3

(530) AN EVALUATION OF THE GROWTH AND WATER CONSUMPTION RATE OF GRAIN SORGHUM (SORGHUM BICOLOR) AT FOUR CLIMATIC SITES IN THE TROPICS AND SUBTROPICS.

Capiel, Modesto; Brenes, Eduardo; Lugo-Lopez, M.A.; Schoch, P.G.; Guzman, V.L.
1978, 20p.

Cornell (AID/ta-C-1104 Res.)

An ecologic study was conducted to evaluate the dry matter yield response and the mean daily growth and water consumption rates of grain sorghum at four climatic sites in the tropics and subtropics. BR-54 seeds of this crop were grown in pots watered by capillarity with a specially-devised fiberglass wick-tin can reservoir technique which permitted water use measurements and drainage through the same wick. Seven weekly harvests were made of shoots and roots separately over a 52-day growth period centered on the March 22 vernal equinox.

Climatic sites had a marked effect on dry matter yields (weight of the shoot). The yield response is directly related to the amount of water consumed which, at the same time, is closely related to the leaf area. However, an analysis of variance indicates that the

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relative growth rate, unit leaf area, water use rate, and other related indices did not significantly differ with climatic sites. As a result, it was found that there existed highly significant quadratic relationships of the relative growth rates and water use rates as a function of days after emergence when the four climatic sites were included together in regression analysis

Linear regression analysis showed also a significant relationship of unit leaf rate and water use rate on the mean daily values of solar radiation intensity and, to a lesser extent, to the open-pan evaporation.

PN-AAG-384

Paper copy \$2.40
Microfiche \$.93

(531) EFFECT OF AGRICULTURAL USE ON WATER QUALITY FOR DOWNSTREAM USE FOR IRRIGATION

Christiansen, J.E.-
1973, 35p.

Utah State (CSD-2167 Res.)

Studies the effect of irrigation return flow on downstream irrigation water quality in the Sevier, Colorado, and Rio Grande river systems, and in the Imperial Valley of Southern California. The report begins by reviewing significant literature on irrigation return flow. Next, water quality criteria are listed, specifically total salt content or conductance, sodium (percentage of total cations), and boron content (parts per million). The impact of various return flow salt, sodium, and boron concentrations on the soil structure in downstream irrigation projects is reviewed. The report next outlines quality measurement procedures and guidelines such as Richard's salinity laboratory classification, Doneen's effective salinity, and Christiansen and Olsen's suggested ratings. A discussion of salt balance follows, accompanied by an explanation of the leaching requirement. The leaching requirement refers to the amount of irrigation water needed to maintain a salt balance within the root zone of the crops grown. Discussions also include soil weathering, gypsiferous soils, and high sodium content soils. Finally, the report considers irrigation-related water quality changes in the farm regions specified above. A list of conclusions, references, and a brief further commentary on salinity laboratory C-S classification concludes the report.

PN-RAA-002

Paper copy \$4.20
Microfiche \$.93

(532) DESERT STRIP FARMING, A MODIFIED DRY FARMING METHOD USING RAINFALL MULTIPLICATION

Matlock, W.G.; Davis, P.R.
1970, 14p.

Ariz. (CSD-2457 211(d))

Reviews progress to date on a runoff distribution strategy in which rain water is harvested in collectors and then channeled to nearby crop areas. The report explains that an inexpensive short-distance irrigation method is badly needed in sunny, potentially arable regions where the limited rainfall is lost through excessive runoff. The basic principles and history of the proposed runoff distribution strategy are outlined and a diagram of its operation is provided. The report next describes a conceptual model of the strategy. The model was developed to determine the most successful ratio of crop area to collector area for any region of known hydrologic and soil characteristics. Finally, a computer program for the testing model is discussed in detail, and ongoing field validation tests now being conducted near Tucson, Arizona, are described. Although no crop yield or crop survival rate results are yet available, it is felt that the desert strip farming runoff strategy is promising. Rainfall charts and a map are included.

PN-RAA-105

Paper copy \$1.68
Microfiche \$.93

(533) DRAINAGE AND SALINITY PROBLEMS IN IRRIGATED AREAS, HOW TO AVOID OR MINIMIZE THEM

Christiansen, J.E.; Olsen, E.C.
1974, 69p.

Utah State (AID/ta-C-1103 Res.)

Recommends drainage methods for maintaining an aerated root zone and a low salinity level in irrigated soils. The report outlines the need for such drainage systems and describes procedures for thorough assessment of specific drainage and salinity problems. Preliminary investigations, field studies, the use of topographical maps and water and soil quality tests are described. The two major drainage methods, i.e. pumping from wells and the installation of open and/or closed drains, are also described. The report next outlines methods for reclaiming irrigated soils which have become overly saline or sodic due to inadequate drainage. Finally, the report enumerates criteria for estimating the cost/benefit of proposed irrigation projects in order to avoid those with potentially serious drainage problems. A glossary of terms used in the report is appended.

PN-RAB-202

Paper copy \$8.28
Microfiche \$.93

FORESTRY

(534) ELEMENTS OF A PRE-INVESTMENT PACKAGE FOR PULP, PAPER, PAPERBOARD AND BUILDING BOARD MANUFACTURE

Auchter, R.J.
1978, 29p

USDA/FS (PASA TA (AG) 03-75 Res.)

Provides a pre-investment package intended to help potential investors assess technologies and markets for currently unutilized hardwood species in tropical countries. The report discusses the technical feasibility of processing extremely hard species, logging techniques for use in areas of great species diversity, forest product market studies by geographical region, and political and financial considerations in the wood and paper industry. In addition, several alternatives to full-scale industrial development are considered, including the use of appropriate technology. It is concluded that the growth of forest product industries in tropical countries depends more on the development of financing than on new technical solutions.

PN-AAG-153

Paper copy \$3.48
Microfiche \$.93

(535) U.S. FORESTRY AND ECOLOGY PROGRAM IN THE SAHEL

Ulniski, C.a
1978, 65p.

Ulniski (AID/afr-C-1453)

Describes the Forestry and Ecology Program of the Club of the Sahel, and the U.S. contribution of this regional effort to arrest and reverse the process of desertification in sub-Saharan Africa. The objective of the Club is to undertake long-range planning and programming for increasing the region's agricultural productivity while maintaining an ecological balance. AID field commissions have formulated projects designed to address the problems of deforestation, firewood shortages, and the general deterioration of the Sahel's natural resource base. Reviews project-by-project current and proposed AID program forestry and ecology. Also describes some activities of the Peace Corps and U.S. private voluntary organizations.

PN-AAG-242

Paper copy \$7.80
Microfiche \$.93

FISHERIES

(536) UNDERUTILIZATION OF FOOD TECHNOLOGY RESULTING IN LOSSES OF AVAILABLE FOOD IN WEST AFRICA

Aurie, M., Lee, Teng-ching; Chichester, C.D.
1977, 105p.

R.I. (CSD-2455 211(d))

Reports original research on fishing operations and fish processing methods in Ghana. Fish is the most important protein source for West Africans. Direct observation, personal interviews with those directly involved in the trade, and limited laboratory assessments of fish at various points in the distribution lines provide the data for this evaluation of fish utilization. Sections include discussions of the state of artisanal fishing, fish preservation and processing technologies, and recommendations to improve fishing operations and processing. Contains photographs and appendices including (1) a report on patterns of production, utilization and consumption of fish in Ghana, with a copy of the interview schedule used in the survey, and (2) a report on a method for determining fish freshness.
PN-AAG-193

Paper copy \$12.60
Microfiche \$1.86

(537) CONTINUITY AND CHANGE IN MARINE FISHING COMMUNITIES

Pollnac, R.B.
1976, 115p.

R.I. (CSD-2455 211(d))

Examines psychological, social, and cultural response to technoeconomic change in small-scale fisheries. The study's first section reviews the major literature dealing with the socio-cultural variables associated with the introduction of innovations. These variables include the innovation's perceived complexity, its compatibility with the target group, its availability for widespread trial programs, its ability to produce observable results, and the effectiveness of the channels through which it is proposed and explained. The second section provides a highly detailed discussion of man's psycho-cultural adaptation to the marine environment. The third section considers selected empirical cases which illustrate the psycho-cultural impact of change in fishing communities. These study cases include groups of fishermen in South Thailand, Panama, Brazil, and Sri Lanka.

PN-AAG-194

Paper copy \$13.20
Microfiche \$1.86

(538) PRACTICAL TECHNOLOGY TRANSFER IN SMALL SCALE FISHERIES

Sainsbury, J.C.
1977, 30p.

R.I. (CSD-2455 211(d))

Identifies and discusses factors influencing the success of technology transfer within small scale fisheries. The paper analyzes the recent history of small scale fishing technology transfer and explains that a successful technology transfer project must take into account the needs and aspirations of the target group and assure that the fishermen understand, approve and participate in the project. Next, specific components of successful technology transfer are considered; it is concluded that among other characteristics a project should be realistically and knowledgeably designed and harmonize sociologically and economically with the target area. The report next lists and discusses guidelines for selecting an appropriate technology for transfer. Finally, the design of an effective target population-oriented delivery system is investigated.

PN-AAG-195

Paper copy \$3.60
Microfiche \$.93

(539) COOPERATIVE MEMBERSHIP AND OPTIMISM AMONG SMALL SCALE FISHERMEN IN PANAMA

Robbins, M.C.; Robbins, L.C.; Pollnac, R.B.
1977, 22p.

R.I. (CSD-2455 211 (d))

Investigates the extent to which membership in fishing cooperative improves fisherman's optimism about achieving long-term goals. It is suggested that the psychological and economic support provided by cooperatives help alleviate the stress and uncertainty associated with the dependence on a variable resource base. This report describes the study's population sample and outlines the survey, a test in which fishermen rate their satisfaction with their past, present, and future status on a one-to-ten scale. The data is then analyzed, using probabilistic temporal models in the form of Markov chain processes.

PN-AAG-196

Paper copy \$2.64
Microfiche \$.93

(540) RESEARCH FOR PLANNED CHANGED AMONG SMALL-SCALE FISHERMEN IN THE GULF OF NICOYA, COSTA RICA; SOME PRELIMINARY RESULTS

Pollnac, R.B.
1976, 8p.

R.I. (CSD-2455 211 (d))

Compiles and analyzes information on attitudes, beliefs, and values of small fishermen in Costa Rica. It is hoped that this and similar anthropological research will help identify the sources of problems encountered in implementing programs to aid small fishermen. The fishermen, who were casually interviewed at small social gatherings, stated that they felt threatened by on-going local economic and biological research projects. They had not been informed about the projects' purpose and were consequently reluctant to answer questions posed by inspectors from those projects. Once informed of the potential uses of the research, however, they generally approved of it. Next, the paper investigates the fishermen's unwillingness to give up their traditional marketing system, which entails dependence on exploitative middlemen, or to adopt centralized accounting practices. The fishermen stated that they preferred personal contact with a familiar middleman and generally distrusted government interference. The study stresses the importance of fully informing the fishermen about projects which affect them and ensuring that these projects take into account the fishermen's socio-economic orientation and needs.

PN-AAG-197

Paper copy \$.96
Microfiche \$.93

(541) INCOME PERIODICITY AND ECONOMIC GRATIFICATION ORIENTATIONS AMONG SMALL-SCALE FISHERMEN IN THE GULF OF NICOYA, COSTA RICA

Pollnac, R.B.
1977, 11p.

R.I. (CSD-2455 211(d))

Examines the relationship between income periodically and economic gratification orientation. The purpose of the study was to determine to what extent dependability and regularity of income influence saving and spending habits. Data for the report is drawn from interviews with 125 Costa Rican small-scale fishermen. The paper briefly reviews previous studies on economic gratification orientation, describes the population sample, and specifies measures of economic gratification orientation and income periodicity. Economic gratification orientation was measured by asking fishermen how they would use a large gift of money. Responses which reflected an investment for future gain were rated highest, while those indicating tendencies toward immediate spending were assigned a value of zero. Income periodicity was determined by dividing the difference between maximum and minimum monthly income by the maximum monthly income.

AGRICULTURE AND NUTRITION

Analyses revealed no significant relationship between periodicity and economic gratification orientation.

PN-AAG-198

Paper copy \$1.32
Microfiche \$.93

(542) SMALL-SCALE FISHERMEN'S BELIEFS ABOUT SUCCESS AND DEVELOPMENT: A PUERTO RICAN CASE

Poggie, J.J.; R.I. Univ. Int. Ctr. for Marine Resource Development
1977, 17p.

R.I. (CSD-2455 211 (d))

Reports on a study to test the hypothesis that one's position in the success hierarchy is related to one's beliefs about success. The study investigated fishermen in Puerto Real, a major Puerto Rican fishing community. After outlining the study's purpose and describing the population sample, the report provides a detailed explanation of the study's mechanism for measuring degree of success, as well as that for identifying fishermen's beliefs about success. These mechanisms entailed 1) a graduated scale success rating of the fishermen by six of their peers, and 2) a questionnaire survey asking fishermen to what they attributed their success or lack of success. Next, the paper presents several empirical correlates of success which were used to differentiate successful and unsuccessful fishermen. The correlates included number of years of fishing experience, boat size, and deferred gratification orientation. The study concludes that, while successful and unsuccessful fishermen differ in their beliefs about what causes success, the views of both segments can provide a useful perspective in the design of interventions to promote fishermen's success.

PN-AAG-199

Paper copy \$2.04
Microfiche \$ 93

(543) DETERMINING THE ADAPTIVE SIGNIFICANCE OF PSYCHOCULTURAL CHARACTERISTICS; AN EXAMPLE FROM A PUERTO RICAN FISHING COMMUNITY

Poggie, J.J.; R.I. Univ. Int. Ctr. for Marine Resource Development
1977, 12p.

R.I. (CSD-2455 211(d))

Compares the gratification orientation of fishermen with that of workers employed in various land-based enterprises and investigates the extent to which a deferred gratification orientation is particularly suited to the contingencies of small-scale fishing. Deferred gratification is here defined as "the tendency to postpone immediate desires in order to obtain more substantial rewards in the future." This paper posits that 1) fishermen will exhibit a higher degree of deferred gratification orientation than will can cutters, factory workers, and small-scale entrepreneurs, and that 2) those fishermen displaying the greatest degree of deferred gratification orientation will be the most successful. The report then describes research conducted to test the two hypotheses, specifying study population, sampling methods, interview questions and data results. The test data supported both hypotheses, but further study using multivariate statistical methods is recommended to account for variance in the success variable.

PN-AAG-200

Paper copy \$1.44
Microfiche \$.93

(544) MICROBIOLOGICAL QUALITY OF FISH FOR SALE IN GUATEMALA CITY

R.I. Univ. Int. Ctr. for Marine Resource Development
1977, 46p.

R.I. (CSD-2455 211(d))

Presents and discusses data from a project to study sanitary conditions and product quality at representative fish markets in Guatemala City. The project was a joint effort of the Central American Research Institute for Industry in Guatemala City and the International Center for Marine Resource Development (University of Rhode Island). The report begins by summarizing the project's research methodologies and specifying the microbiological quality and sanitation indexes chosen. These were aerobic plate count at 25 degrees C., faecal coliforms (MPN), and a staphylococcus aureas estimate. The report next describes procedures and results of tests conducted. These rated the refrigeration procedures used in shipping fish, investigated conditions at public markets and supermarkets where fish are sold, and evaluated the quality of frozen fish products processed by commercial fisheries. Particularly detailed descriptions of the markets are provided: Data contained in the report includes tables comparing test results for various selling areas, a copy of a Spanish language questionnaire used to survey marketers' fish preparation and distribution practices, fish price information, and microbial, aerobic plate, faecal coliform, and Staphylococcus aureas counts.

PN-AAG-201

Paper copy \$5.56
Microfiche \$ 93

(545) RISK AS A BASIS FOR TABOOS AMONG FISHERMEN IN SOUTHERN NEW ENGLAND

Roggie, J.J.; Pollnac, R.B.; Gersuny, Carl
1976 7p.

R.I. (CSD-2455 211(d))

Examines the relationship between fishermen's taboos and a number of socio-cultural variables--production risk (profits are uncertain and dependent on luck), personal risk (exposure to danger), fishing, family background, vessel size, length of trips, time spent at sea, and formal education. It is suggested that, in accordance with Malinowski's risk and ritual hypothesis, persons who are exposed to high-risk situations to which they have not been preadapted through successful parent role models will develop coping devices in the form of taboos. Fishermen from three New England fishing ports are interviewed and rated for prevalence of taboos, and a step-wise multiple regression analysis is used to identify the variables most strongly associated with taboo.

PN-AAG-202

Paper copy \$ 84
Microfiche \$.93

(546) KINSHIP LINKS AMONG SMALL SCALE FISHERMEN IN THE GULF OF NICOYA, COSTA RICA

Pollnac, R.B.
1977, 15p.

R.I. (CSD-2455 211 (d))

Investigates the influence of kinship links on crew structure and recruitment patterns in small-scale Costa Rican fishing groups. The paper describes the population sample studied and reports and discusses data obtained in the study's questionnaire survey. The data tables presented compare the incidence of family fishing groups in urban and rural areas, and include information on the number and nature of kinship links within typical Costa Rican urban and rural fishing groups. The paper concludes by recommending that studies and assistance programs involving fishermen should take into account the importance of kinship links in crew structure, both

For addresses of issuing offices see the
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when designing interventions and when interpreting fishing sector data.

PN-AAG-203

Paper copy \$1.85
Microfiche \$.93

HUMAN NUTRITION

(547) GROWTH OF PREVIOUSLY WELL-NOURISHED INFANTS IN POOR HOMES

Graham, G.G. British-American Hospital, Lima, Peru
1975, 19p.

B-AH (CSD-2946 Res.)

Studies the effect of drastic qualitative and quantitative changes in nutrition on infant growth rates. In this study, 26 Peruvian infants from very poor families were placed shortly after birth in a convalescent unit and given an adequate diet. After remaining in the unit for periods ranging from 7 to 33 months, the infants were returned to their original homes. The study report opens with a summary of purpose, assumptions, and overall results. Next, it provides methodological specifications regarding the infants' diet, health care and their general treatment at the convalescent unit, and comments on infant weight-for-age measurements both in the convalescent unit and at home. The subsequent section lists height, weight, head circumference, and age data from the study and briefly describes the regression equations developed to compare subjects' measurements with those of infants in the U.S. In the final section, results are discussed and evaluated. The paper concludes that, while the growth rate of infants from poor families is temporarily normalized by adequate diet, such early maximal growth does not protect against eventual stunting if dietary supplements are discontinued. Growth rate tables and figures are provided.

PN-AAD-754

Paper copy \$2.28
Microfiche \$.93

(548) LIBERIA NATIONAL NUTRITION SURVEY: DEC. 1975 TO MARCH, 1976

Calif. Univ., Los Angeles. School of Public Health
1976, 143p.

Calif.—Los Angeles (AID/ta-C-1240 GTS)

Assesses the prevalence of acute and chronic protein-calorie malnutrition (PCM), anemia, and kwashiorkor in children 0-5 years old in rural Liberia. The project seeks to identify Liberian geographical areas and population groups most in need of nutritional aid. The report's introductory section briefly reviews the Liberian malnutrition problem and summarizes past efforts to alleviate it. It next provides background information on physical conditions, population, and food supply in Liberia. The indices of malnutrition (height for age, weight for age, arm measurement) used in conducting this study are also delineated in the introductory section. The next section describes the survey design, providing information on sampling methods and a map of test sites. Field methods and project components are also explained in detail; these include personnel training, transport, communication, hemoglobin estimation, and data preparation. The following section provides survey results estimating nutritional status according to age and geographical area and discusses the prevalence of PCM, anemia, and kwashiorkor. The study also investigates the possible significance of variables such as birth order, household size, and parents' age and occupations. The report includes extensive appendices which provide supplementary data on sampling populations, testing procedures, and survey questionnaires.

PN-AAE-026

Paper copy \$17.16
Microfiche \$1.86

(549) LIBERIA NATIONAL NUTRITION SURVEY, SUBSAMPLE REPORT: DEC. 1975 TO MARCH, 1976

Calif. Univ., Los Angeles. School of Public Health
1976, 76p.

Calif.—Los Angeles (AID/ta-C-1240 GTS)

Examines conditions believed to be closely (although not necessarily causally) associated with acute or chronic protein-calorie malnutrition (PCM). The project studies a subsample of 250 Liberian children from the larger group studied in the Liberian National Nutrition Survey. The report begins by describing procedures for selecting and categorizing the children in the subsample. Researchers measured children's heights and weights and calculated height/weight ratios to provide general indicators of nutritional status. These ratios were used in classifying cases of acute, chronic, and borderline PCM. A control group of children with normal nutritional status was also studied. Next, the report details research methods used to obtain information regarding factors which could influence each child's nutritional status. These factors include family income, number of rooms in house, possessions, sanitation, qualitative food intake, and over-all health. Finally, the correlations between the above factors and the children's nutritional status are discussed and analyzed.

PN-AAE-027

Paper copy \$9.12
Microfiche \$.93

(550) TOGO NUTRITION STATUS SURVEY; OCT. 1976 - JAN. 1977

Togo. Ministry of Rural Development; U.S. Ctr. for Disease Control, Atlanta, Ga.
1977, 127p.

HEW/PHS/CDC (RSSA-HEW/CDC 3-75 GTS)

Contains results of a detailed report on the status of nutrition in Togo, particularly that of mothers and children. The study was designed to 1) provide the Togo Ministry of Rural Development with a reliable data base for use in planning and monitoring nutrition intervention programs, and 2) to help develop the capability of Togo personnel to conduct nutrition surveys in the future. The first section of this report details design and methodology of the survey, including data collection procedures and personnel training. Following this methodological information, the resulting study data is presented. Tables contain height, weight, and arm circumference measures, and indicate the percent of population (by region, sex, age, ethnic group, and income) suffering from acute and chronic malnutrition, anemia, and bilateral pedal edema. Specific instructions for taking measurements and obtaining blood samples are provided in the appendix.

PN-AAG-240

Paper copy \$15.24
Microfiche \$1.86

(551) RESOURCE GUIDE FOR NUTRITION PLANNING IN LESOTHO

Anderson, J.H.
1978, 45p.

Colo. State (AID/ta-BMA-6)

Report focuses on food production, agricultural policy and the nutritional health status of the population of Lesotho. Author discusses previously compiled data and studies indicating serious nutritional imbalances in the Basotho population and presents the following overall picture: 20% of the under-five children are reported to be stunted and chronically malnourished; 25% are anemic; 13% of the mothers are obese; and 33% of the households are estimated to be without sufficient income to provide a satisfactory diet for the entire family. Author notes that if good nutrition is accepted as a basic national policy goal, three policy issues become fundamental: 1) How can the population be

DEVELOPMENT ASSISTANCE

educated to make the best use of limited food resources? 2) How can the available food supplies be more equitably distributed? 3) How can food production be influenced in favor of a more nutritious pattern? The authors outline food production, food technology, marketing, nutrition education and legislation as priority areas for which data is urgently needed to formulate an effective national nutrition policy. Currently available sources of data on per capita food consumption are then discussed—with data too old, or as yet incomplete, specifically noted. Three nutrition data sources are recommended—a 1977 Attitude Survey on Senqu Project Area Farmers by J. Gay and T. Guma, the 1972-74 FAO Food Balance Sheets for Lesotho, and the 1972/73 Household Budget Survey. Appended to the report are: a listing of Departments and agencies involved in nutrition activities, a bibliography of sources of information on nutrition activities in Lesotho and a sample calculation of the 1976 Average Per Capita Food Consumption Data.

PN-AAG-324

Paper copy \$5.40
Microfiche \$ 93

DEVELOPMENT ASSISTANCE

(552) WOMEN IN DEVELOPMENT, REPORT OF A CONFERENCE

Long, N.H.; Goodman, Lena; Ralli, A.A.; Turner, B.A.; Varrati, G.E., Conf. on Women in Development, Washington, D.C., 1975, 77p.

AID/WID

Describes the purpose and proceedings of the conference held in Washington, D.C. in October/November 1975 to assess, and to formulate ameliorative policies regarding, the status of women in AID projects worldwide. The conference had three objectives: (1) to provide an analysis of the AID Women in Development (WID) concept; based on reports from its field mission representatives; (2) to report on women's participation in other international development organizations; (3) to constitute a forum for presentations by experts outside of AID about women's involvement in various economic sectors. Recommendations focused on the need to increase the percentage of women at all levels of AID staff and to encourage less developed countries to integrate women into their national economic structures. Appendices include texts of addresses by representatives from AID, the U.S. Congress, the U.N., and other institutions with an interest in international development.

PN-AAC-315

Paper copy \$9.24
Microfiche \$ 93

(553) PROPOSAL FOR A LONG-TERM COMPREHENSIVE DEVELOPMENT PROGRAM FOR THE SAHEL, MAJOR FINDINGS AND PROGRAMS

AID/AFR/SFWA
1976, 35p.

AID/AFR/SFWA

Outlines the major development efforts in the Sahel—two current national cooperative programs and an AID-proposed program. The Sahel, which comprises sections of six of the world's poorest countries (Mali, Nigeria, Chad, Upper Volta, Senegal, and Mauritania), is subject to recurrent and protracted drought. The projects discussed in this report developed out of relief programs initiated during the severe drought of 1968-73. The first section of this paper surveys conditions in the Sahel, provides legislative background on the USAID Sahel proposed project, and describes the scope, geographic coverage, and methodology of this report. The second section begins by presenting the objectives, activities, and recommendations of the two national development assistance organizations, i.e. the Permanent Interstate Committee for Drought Control (a coalition between the 6 Sahelian states and the

UN Special Sahelian Office) and the Club des Amis du Sahel. These programs, which grew out of the 1976-73 relief effort, stress that Sahel development policies be long-term, address the need for food self-sufficiency, and regard the Sahel as a single economic entity. The report next presents the key focuses of the proposed AID program. These include food production and agricultural income, water resources, human resources, infrastructure, R&D, and industry and mining. The proposal's near-, medium-, and long-term frameworks are explained, and its resource requirements are outlined.

PN-AAC-843

Paper copy \$4.20
Microfiche \$ 93

(554) INFORMATION AND COMMUNICATIONS IN THE SAHELIAN DEVELOPMENT STRATEGY

Matthews, D.G.
1978, 40p.

BLK (AID/afr-C-1199 GTS)

An analysis of the existent problems, constraints and recommendations relevant to improving the dissemination of development information within the Sahel and its subsequent impact on disseminating the information of Sahelian development objectives abroad and contained in this report. One of the primary missions was to explore ways of involving the mass communications media in the work of the Club du Sahel and in making this work known to the people of the Sahel generally. Recommendations include: develop and provide specialist assistance to prevent further duplication of effort and cost with maximum impact on the region as a whole; initiate action-oriented programs in related information and mass media training through conferences, seminars, meetings, and workshop planning and implementation in coordination; assist in the recruitment of public information specialists to begin work on information dissemination programs in reaching their respective constituencies which include both the urban and rural poor in the Sahel; recognize and utilize the capacities of the growing Sahelian membership of the African Council of Communication Education. It is also suggested that a conference, seminar, or workshop program be developed with action oriented objectives specifically designed to involve more Sahelian women in information dissemination and mass media for development in the region.

PN-AAF-650

Paper copy \$2.40
Microfiche \$.93

(555) REPORT OF THE WORKSHOP ON PUBLIC/PRIVATE COLLABORATION AND THIRD WORLD FOOD SYSTEMS

Wolff, M.L.; Slater, L.E.; Workshop on Public/Private Collaboration and Third World Food Systems, Aspen, Colo. 1978, 39p.

Aspen (AID/DS/otr-G-0002)

Summarizes discussions held during the workshop convened by the Aspen Institute for Humanistic Studies (Program on Food, climate and the World's Future) during August 1978. The purpose of the workshop was to evaluate the potential for collaboration between business and government in devising programs to increase world food supplies. Recommendations from the workshop were submitted to the U.S. State Department and are now being used to help formulate U.S. contributions to the forthcoming U.N. Conference on Science and Technology for Development. The recommendations were also presented to AID for use in enlisting corporate assistance in international development projects. In the opening section, the report briefly reviews the history, and assesses the effectiveness, of development assistance, and points out the increasing need for government/business collaboration. The next section outlines factors restricting the role of agribusiness in development assistance projects; these limitations are primarily related to the degree of risk involved in the projects and the scope

of the potential market. The report next presents the workshop's recommendations, which focus on the need for a collaborative approach to food systems development, the special capability of the private sector to train managers, the importance of women to the agricultural system, and special outreach programs. Finally, the report evaluates the probable effectiveness the proposed Foundation for International Technological Cooperation. A workshop agenda is appended.

PN-AAG-159

Paper copy \$4.68
Microfiche \$.93

**(556) U.S.-MEXICAN DEVELOPMENT COLLABORATION;
A QUESTION OF SUBSTANCE AND STYLE**

Gutierrez, G.G.
1978 52p.

Gutierrez (AID/la-C-1256)

Analyzes the current status of U.S.-Mexico bilateral economic assistance and proposes an approach to future U.S.-Mexican development cooperation. This U.S.-Mexican approach could concomitantly help less poor countries (LPC) in the western hemisphere. The paper discusses politically and socially defined limitations on U.S. aid to Mexican development and considers problems related to the illegal migration of job-seeking Mexicans to the U.S. The divergent attitudes of the U.S. and the government of Mexico regarding the migration problem are examined. The report then recommends that the U.S. and Mexico establish an Inter-American Institute for Applied Development Analysis, which would help improve the research and development capacities of western hemisphere LPC's, while providing a forum for joint U.S.-Mexican research on development.

PN-AAG-226

Paper copy \$6.24
Microfiche \$.93

**(557) THE INVOLVEMENT OF MINORITY INSTITUTIONS
IN INTERNATIONAL AGRICULTURAL DEVELOPMENT;
ALTERNATIVE APPROACHES**

Whyte, C.D.
1978, 134p.

Va. State (CSD-3415 211 (d))

Discusses the scope and nature of current and potential participation in AID development projects by 1890 Land Grant (minority) Colleges and Universities and by Tuskegee Institute. The report recommends measures to promote and improve such participation. The resources and activities of each institution are examined in terms of their 1) research and extension capacity, 2) education and training capacity, 3) linkages and other capacities, and 4) individual potential for international agricultural and rural development project contributions. The report stresses that, in order to improve AID/minority cooperation, minority institutions should manifest a positive interest in and commitment to international agricultural and rural development. AID must also attempt to better perceive and understand the needs of minority institutions. Specifically, AID should make Washington and field positions available to minority faculty members, and minority institutions should offer programs consistent with the demands of international involvement.

PN-AAG-234

Paper copy \$16.08
Microfiche \$1.86

**(558) THE RISE AND FALL OF COMMUNITY
DEVELOPMENT IN DEVELOPING COUNTRIES, 1950-
65; A CRITICAL ANALYSIS AND AN ANNOTATED
BIBLIOGRAPHY**

Holdcraft, L.E.
1978, 78p.

Mich. State (AID/ta-CA-3)

Traces the recent history of the community development movement, discussing its implications on current rural

development programs for less developed countries (LDC) and reasons for its decline. The paper reviews the origins of community development and comments on the movement's commitment to encouraging the growth of stable democratic nations. The report next describes the implementation of community development programs, emphasizing the role of the "multi-purpose village worker", a specially trained American civil servant sent to initiate programs in LDCs. The widespread flourishing of community development programs in the 1950's and their subsequent dramatic decline in the 1960's are discussed in detail. The report suggests that two main causes for the decline were disillusionment on the part of LDC leaders and sharp reductions in support by funding agencies. The report next specifies areas in which current and future rural development programs can benefit from lessons learned in community development experiences. Effective project coordination, emphasis on improving agricultural output, and the elimination of elitist tendencies in project leadership and participation are among the major recommendations. The remainder of the report reviews the significant literature on community development, training programs, specific country studies, and project evaluation methods. A bibliography concludes the report.

PN-AAG-236

Paper copy \$9.36
Microfiche \$.93

**(559) A STRATEGY FOR A MORE EFFECTIVE
BILATERAL DEVELOPMENT ASSISTANCE PROGRAM;
AN A.I.D. POLICY PAPER**

AID/PPC
1978, 83p.

AID/PPC

This 1978 revision of a 1977 draft background paper sets forth a "new directions" approach for U.S. bilateral development assistance. Strategy enunciated in revised paper does not imply a change in approach, but an evolution, reflecting subsequent Administration and Congressional initiatives--in particular, the Humphrey foreign assistance bill. The revised strategy aims at effectively supporting developing country efforts (with priority given first to low-income LDC's--those with per capita income less than \$550--then to middle-income countries) to satisfy, through sustained and equitable economic growth, the basic needs of their populations. Emphasis is to be placed on increasing individual income of women and the poor through greater productivity and expansion of employment opportunity, and on increasing the availability of, and access to, goods and services required to meet basic human needs. Implementation of the strategy assumes effective popular participation by the poor and women to ensure enhancement of political and civil rights as well as economic rights. While focusing on AID project and PL 480 assistance, the paper also notes that security assistance should adhere to the new directions objectives to the greatest extent possible. The paper sets forth an outline of programs for five major areas of focus:: agriculture, nutrition and rural development; PL 480 food aid; population; health; and education and human resources. Finally, the paper addresses five supplemental assistance areas that are essential over the long term to raising the standards of living of the poor: urban development; shelter, energy, environment and natural resources; and science and technology.

PN-AAG-250

Paper copy \$9.96
Microfiche \$.93

**(560) BASIC HUMAN NEEDS; A DEVELOPMENT
PLANNING APPROACH**

Crosswell, Michael
1978, 48p.

AID/PPC/PDA

Discusses the basic human needs (BHN) approach as a sound organizing framework for development planning and explores development policies that might be suitable for meeting these basic

DEVELOPMENT ASSISTANCE

needs. The concrete objective of the BHN approach is to enable individuals to attain a sustainable, minimum standard of living, defined in material terms, by linking growth in GNP to provision for BHN. Thus, the BHN strategy focuses on the tangible necessities of life—food, water, clothing, shelter, health, education and so forth—without which a person has little or no chance to lead a fulfilling existence. Development policy options are presented in a framework organized around the four immediate objectives of the BHN approach—those concerning employment, income transfer, public services and private goods. Concludes that all of the presented development policy options would not be appropriate in all countries, but rather that any country concerned with satisfying basic needs on a sustainable basis could identify some subset of these policies that would be both effective and appropriate given its particular political and economic circumstances. A bibliography is included.

PN-AAG-251

Paper copy \$5.76

Microfiche \$9.93

**(561) REPORT ON WOMEN IN DEVELOPMENT;
SUBMITTED TO THE COMMITTEE ON FOREIGN
RELATIONS, UNITED STATES SENATE AND
THE SPEAKER OF THE HOUSE OF REPRESENTATIVES**
AID/WID

1978, 236p

AID/WID

Describes the assumptions, programs, impacts, problems and needs for women in development since the Women in Development Office (WDO) was established in 1974. Distinctions among project activities as to what constitutes a women in development project include projects with women's components integral to the project and women-specific projects which help them to "catch-up" to men in areas where women have been neglected. Projects which merely contained impact statements on women but which lacked deliberate effort to involve women were excluded from the report. Funding totals are provided only for women-specific projects. The report's activities section explains why small-scale activities that interest and train people in the women in development concept must precede project design. These activities will promote awareness of women as wives and mothers and also as individuals who can and do contribute to development. Such activities would help bridge the gap between these roles, especially in health, nutrition, population and education projects. Considerations that could facilitate more effective integration of women's components into future AID projects include education for young women, priority given to rural women, participatory roles for women and linkages between women's organizations. The report's data base section discusses general problems in collection and use of data for women in development and the pros and cons of the AID data base. National statistics on women in LDC's have been gathered by the World Fertility Survey and AID regional bureau Profiles on Women for the purpose of designing and evaluating AID projects. There has been, however, little or no systematic effort to supply AID/Washington with information about effective projects and general progress on integrating women into development. Other international development organizations as well as AID have developed data collection and monitoring systems to evaluate economic performance, but sources of data that could clarify social and personal economic progress are frequently aggregated to relate only to the economic system and not the individual components. The authors of this report state that if women are to be finally integrated into mainstream AID projects, data on women must be fully integrated into the AID data system.

PN-AAG-278

Paper copy \$28.32

Microfiche \$2.79

**(562) INTERNATIONAL REQUIREMENTS FOR PROJECT
PREPARATION: AIDS TO OBSTACLES TO
DEVELOPMENT PLANNING**

Rondinelli, D.A.

1976, 13p.

Syracuse (AID/ta-C-1282 GTS)

Evaluates requirements and procedures for preparing development projects and recommends that some procedures be simplified. The report stresses that even the most sophisticated analyses are useless unless they lead to the implementation of actual projects, and points out that vague national development plans too often gain approval precisely because they neglect to state an implementation strategy specific enough to generate conflict. The report assesses the major steps currently required in project preparation: preliminary reconnaissance investigations, preinvestment studies, prospectus preparation, and feasibility studies. The report argued that, while each step is theoretically logical, there is in practice often little relationship between such detailed technical and economic analyses and successful project implementation. The report concludes by recommending the development of project-oriented, indigenous planning capacities which rely on outside sources for funding and technical assistance but which are in other respects locally controlled and are immediately related to an appropriate implementation capacity.

PN-RAB-721

Paper copy \$1.56

Microfiche \$9.93

ECONOMICS

**(563) MEASUREMENT OF MANPOWER UTILIZATION
WITH IMPLICATIONS FOR DEVELOPMENT**

Williams, T.T.; Glasgow, R.B.

1977, 97p.

Southern (CSD-3414 211(d))

A study of underemployment and development problems in 53 selected counties in Alabama, Arkansas, California, Kentucky, Missouri, North Carolina, New Mexico, Virginia, and West Virginia. Manpower utilization data for these areas were studied to determine (1) indications of need for development; (2) the potential for development, (3) indications of racial discrimination in the job markets; (4) manpower development policies and programs; and (5) the economic implications for potential employers in the rural areas studied. The most important implication of the data developed in this report is that these rural study areas need more and better employment opportunities. The quantity of labor available in these areas for new employment opportunities is significantly larger than labor force statistics indicate. These rural study areas are believed to offer rather good prospects for new enterprises, considering both their recent past performance and the characteristics and relative costs of manpower available to prospective employers. The technique advanced in this study could also serve as a useful research tool for helping plan and design programs to meet the elementary requirements of the lowest income groups in developing countries.

PN-AAC-889

Paper copy \$11.64

Microfiche \$9.93

**(564) PATTERNS OF ECONOMIC AND POLITICAL
PARTICIPATION; FINAL REPORT, PT. I: SUMMARY,
CONCLUSIONS, AND RECOMMENDATIONS.**

Adelman, Irma; Morris, C.T.

1971, 15p.

Northwestern (CSD-2236 Res.)

Outlines the purpose, methodology, and major findings and recommendations of a study analyzing intercountry differences in political and economic participation in less developed countries.

This section, Part I, opens with a summary of conclusions reached in the course of the project. These primarily focus on the need for specific policy measures to insure that economic growth is accompanied by increased political participation and improved income distribution. Next, strategies are recommended by which AID can help increase political and/or economic participation within LDCs; social mobility and job availability programs are among the measures suggested. It is stressed that AID intervention should not be undertaken without serious consideration of the probable and possible consequences of both action and inaction. Finally, the study's major findings are summarized. It is concluded that (1) political and economic participation are not closely linked; (2) political participation can be improved by increasing social mobility, instituting land reform, strengthening the political party system, and educating the military; and (3) economic participation can best be effected through programs to increase human resource development and reduce dualistic patterns of socio-economic development

PN-AAD-274

Paper copy \$1.85
Microfiche \$.93

(565) PATTERNS OF ECONOMIC AND POLITICAL PARTICIPATION; FINAL REPORT, PT.2: A CONCEPTUALIZATION AND ANALYSIS OF POLITICAL PARTICIPATION IN UNDERDEVELOPED COUNTRIES

Adelman, Irma; Morris, C.T.
1971, 76p.

Northwestern (CSD-2236 Res.)

Presents a quantitative analysis of social, economic, and political influences on popular political participation in 74 AID host countries. The purposes of the project is to develop methods by which AID can encourage political participation, in less developed countries. The report's first section reviews the goals and scope of the project, discusses the concept of political participation, and describes steps in formulating indicators of high or low popular political participation. Various criteria for indicators are tentatively considered and the difficulties inherent in each are summarized. Finally, a system is developed which classifies countries by the extent and effectiveness of national popular political participation. The classification system produces a composite score for each country, based on the extent to which major socio-ethnic and cultural-ethnic groups are represented in the political system, the range of effective available political channels, and the extent of actual individual participation. This classification forms the basis of discriminant analyses which compare the political participation of various socio-economic subclassifications. The discriminant analyses are conducted for both 1957-1963 variables and 1963-1968 variables. Numerous data tables containing analysis results are presented and discussed. Extensive appendices present supplementary information on the political participation classification scheme.

PN-AAD-275

Paper copy \$9.12
Microfiche \$.93

(566) PATTERNS OF ECONOMIC AND POLITICAL PARTICIPATION; FINAL REPORT, PT.3: AN ANATOMY OF PATTERNS OF INCOME DISTRIBUTION IN DEVELOPING COUNTRIES

Adelman, Irma; Morris, C.T.
1971, 134p.

Northwestern (CSD-2236 Res.)

Investigates intercountry variations in income distribution patterns in less developed countries. Data for the study is drawn from 44 LDCs at widely different levels of development. The first section of this report details the project's statistical technique, analysis which derives subgroups through an asymmetrical branching process and allows for highly non-linear interaction.

The analysis's independent and dependent variables are also detailed. A thorough discussion of statistical results follows, providing extensive information on current income distribution in the LDCs studied. Next, the "coefficient of concentration" is presented; this summary measure characterizes the extent of divergence from completely uniform income distribution. The report concludes that the most important variables affecting income are ecological, socio-economic, and political. The text is supplemented by income distribution statistics for the 44 countries studied and a bibliography listing information sources according to country.

PN-AAD-276

Paper copy \$16.08
Microfiche \$1.86

(567) THE EFFECTS OF DISTORTIONS IN THE FACTOR MARKET, SOME GENERAL EQUILIBRIUM ESTIMATES

DeMelo, Jaime
1976, 31p.

AID/PPC/PDA

Presents a computable wage and price endogenous (WPE) general equilibrium model of resource allocation where both product and factor prices are allowed to adjust to changes in factor market distortions. The purpose of the model is to analyze the effects of factor market distortions on welfare and economic structure. The model's methodology extends and elaborates a methodology outlined in a Dougherty and Selowsky (D-S) study on Columbia and offers new Columbian data for comparison with the D-S results. Section I describes the scope and goals of the paper and reviews earlier related studies; Section II presents the model's basic framework; Section III, the data requirements; and Section IV, the empirical results. Concluding remarks assess the model's applicability. A mathematical summary of the model, a list of variables and parameters, and a list of references are contained in the appendix.

PN-AAE-099

Paper copy \$3.72
Microfiche \$.93

(568) PUBLIC FINANCE ASPECTS OF A BASIC NEEDS STRATEGY; SOME RESEARCH ISSUES

Curry, R L.
1978, 33p.

AID/IIA/EA

The purposes of this paper are: (1) to identify some of the problems and issues in designing of public sector policy in support of basic needs objectives, with a primary focus on pricing policy for public services and public finance; (2) to raise some aid policy issues for donors; and (3) to suggest a research design for addressing some of these problems in detail in the context of individual LDCs. Numerous questions have been raised about the nature of LDCs and donor policies and programs that are most appropriate for the pursuit of basic human needs (BHN) objectives within the context of self-sustaining, broadly based economic development. The first part of this paper summarizes briefly key elements in a BHN strategy and their linkages to the public sector. Subsequent sections review available estimates for fixed and recurrent costs in the provision of public services, identify alternatives for public service pricing and financing, raise some preliminary issues for aid policy and provide a tentative research design. The objectives of a BHN strategy are the attainment of particular standards of well-being for the poor over time. Among such standards is the ability to attain minimum levels of consumption of such necessities as food, health, shelter and education. The amount of investment and recurrent costs of such a program depend on resources required to construct, maintain and operate a BHN network that is designed to serve a target population with goods and services of various qualities and quantities. Costs increase as more people are served, with larger quantities delivered through higher quality networks. However, broader and more complex systems could reduce unit costs given potential complementarities and

ECONOMICS

interdependencies among BHN items. Research at this point should concentrate on public sector activities in water and sewerage, basic health, housing, sanitation and education. Country-specific research could either seek to identify minimum standards of consumption that are necessary for the target group's well-being, or use existing information or standards and consumption gaps and proceed directly to costs. The first approach would be more complete and useful for planning purposes, the second would require less research time and funding and would not run the risk of delving into "sensitive data".

PN-AAF-009

Paper copy \$3.96
Microfiche \$.93

(569) A SURVEY OF THE LITERATURE ON INCOME DISTRIBUTION AND THE FULFILLMENT OF BASIC HUMAN NEEDS IN THE CARIBBEAN REGION

Zuvekas, Clarence
1978, 70p.

AID/LAC/DR/RD

Reviews literature on standards of living in both rural and urban areas of the Caribbean region. Focuses on income distribution, examines income distribution policies, and makes suggestions for additional research on income and levels of living. Information sources include 1960 and 1970 population censuses of the Commonwealth Caribbean, agricultural censuses (1971-75), and a series of small-farmer surveys in various Caribbean locations. Topics include 1) income and income distribution statistics, 2) distribution of agricultural land (as indicator of distribution of wealth), 3) other level of living indicators (unemployment and underemployment, education, housing, household water supply systems and toilet facilities, electricity, infant mortality, life expectancy, and nutrition), 4) income distribution policies, including those related to land ownership, education and health, tax policy, credit, wage policy, and marketing. Suggestions for future research emphasize obtaining better information on existing levels of living and changes over time regarding the well-being of lower-income groups in the Caribbean region.

PN-AAG-245

Paper copy \$8.40
Microfiche \$.93

(570) THE ECONOMIC ROLE OF TRADITIONAL SAVINGS AND CREDIT INSTITUTIONS IN ETHIOPIA

Begashaw, Girma
1978, 24p.

Ohio State (AID/ta-CA-2)

Five Ethiopian mutual aid associations (ROSCA) are discussed. The Idir, headed by elected officials and open to all community members, acts as an insurance program to meet emergency conditions. Idir members, through entrance fees and monthly contributions, provide assistance during illness or unemployment; and for weddings, funerals, etc. The Regional Mahaber, a self-help organization open to all, both informs members of what is happening in home districts and raises funds for the construction of roads, schools, etc. The Church Mahaber is not a savings institution but provides funds for social activities. The Gossa, financed through member contributions, provides assistance to members in financial difficulty, and pays "birthprices" and funeral expenses when members cannot afford them. The Ikub, the most successful ROSCA, is a rotating savings and credit association comprised of members who regularly contribute money which is then distributed after each collection to one member, until all participants have received funds. It is estimated that the annual savings volume in Ikubs is 8-1% of the GDP. The outstanding success of ROSCA's and failure of formal financial institutions in Ethiopia are indications that savings and credit institutions should be based on local cultural and economic conditions rather than

banking systems similar to those in highly industrialized societies. Bibliography is included.

PN-AAG-276

Paper copy \$2.88
Microfiche \$.93

(571) INCOME INSTABILITY AND CONSUMPTION- SAVINGS IN SOUTH KOREAN FARM HOUSEHOLDS, 1965-1970

Ro, Y.K.; Adams, D.W.; Hushak, L.J.
1978, 28p.

Ohio State (AID/ta-CA-2)

The sources and extent of income instability among representative South Korean farm households during 1965-70 are discussed. An index of income instability and various consumption functions, based on a permanent income model, were utilized to estimate the effects of income on savings-consumption behavior. Conclusions were that: unstable farm income resulted in increased savings; most farm credit is associated with consumption; policy-makers ought to be particularly aggressive in designing savings mobilization programs which focus on regions and households experiencing income instability due to rapid increases in off-farm employment, highly variable weather, and/or rapid technological change; and low absolute income levels do not suppress savings behavior. Report contains formulas, models, tables, and a bibliography.

PN-AAG-277

Paper copy \$3.36
Microfiche \$.93

(572) REAL WAGES, GROWTH, INFLATION, INCOME DISTRIBUTION AND POLITICS IN PAKISTAN, INDIA, BANGLADESH, INDONESIA

Papanek, G.F.
1979, 117p.

Boston (AID/otr-G-1525)

Author discusses how and why wages change over time in less developed countries by using trends present in India, Pakistan, Bangladesh, and Indonesia during the 1950's 60's, and 70's. In all 4 countries, rapid growth rates resulted in increased real wages. As agricultural and farm incomes increased, new businesses needed to offer greater salaries to attract workers away from family farms. During rapid growth, employers either hired more help or operated on an overtime basis, raising real wages. Surprisingly, neither workers' political power nor government pressure kept real wages from dropping. Regulations requiring minimum wages and stable employment resulted in decreased growth and economic stagnation since employers were less likely to hire new help fearing, if the economy slowed, they would not be able to reduce their work force. Economic stagnation further slowed production rates by increasing unemployment which encouraged low wages and reduced both the purchasing power of the consumer and demand for manufactured goods. Underemployed individuals trying to return to farms where income was greater, found their extended family reluctant to let them return since this would depress everyone's income; and often, past jobs had been replaced by mechanical tools or devices. Other factors identified as affecting wages were weather, export prices, and government policies. Study contains numerous tables and statistics.

PN-AAG-328

Paper copy \$1404
Microfiche \$1.86

(573) TECHNIQUES AND METHODOLOGIES FOR STIMULATING SMALL-SCALE LABOR-INTENSIVE INDUSTRIES IN DEVELOPING COUNTRIES, PROCEEDINGS OF THE CONFERENCE AND SEMINAR

Lodge, D.E.; Auciello, K.E.
1975, 318p.

Ga. IT (AID/cm/ta-G-73-18 211 (d))

Contains the major addresses delivered at a conference and

seminar convened to exchange information on current programs to encourage the growth of small scale industries in less developed countries. The meetings, which were held at Georgia Institute of Technology in March, 1975, were attended by public and private sector officials from the U.S and numerous developing countries. This proceedings report includes a conference schedule, list attendees, and conference photographs, as well as texts of major speeches and transcripts of discussions and question-answer sessions.

PN-RAB-508

Paper copy \$38.16
Microfiche \$3.72

SOCIAL SCIENCES

(574) REPUBLIC OF KOREA, COUNTRY DEMOGRAPHIC PROFILES

Finch, Glenda; Quick, S.D.
1978, 32p.

CENSUS/ISPC (COM/CEN 4-75 GTS)

Contains tables of selected demographic information on the Republic of Korea. Data was obtained from surveys, questionnaires, and censuses dating from the years 1966 through 1975. Vital statistics include population, birth and death rates, and life expectancy. Other tables provide information on literacy, educational attainment, labor force distribution, household formation, migration, age at marriage, and contraception usage. A glossary of demographic terms prefaces the report.

PN-AAG-155

Paper copy \$3.84
Microfiche \$.93

(575) AFGHANISTAN, A DEMOGRAPHIC UNCERTAINTY

Spitler, J.F.; Frank, N.B.
1978, 19p.

CENSUS/ISPC (COM/CEN 4-75 GTS)

Presents demographic characteristics of Afghanistan. The report is based on data from Afghanistan's first comprehensive demographic study, the National Demographic and Family Guidance Survey of 1972-1973. There are no data sources to supplement the survey, which was, moreover, unable to account for the large nomad population. Therefore, much of the present report depends on statistical prediction. For example, crude birth rates are derived through rejuvenation technique which applies infant mortality rates to current population data for 0- to 4-year-olds. In addition to birth rates, the survey includes estimates for age-specific fertility rates, mortality rates, age-sex distribution, socioeconomic characteristics, and family planning practices.

PN-AAG-156

Paper copy \$2.28
Microfiche \$.93

(576) COMMUNALISM BUREAUCRACY AND ACCESS TO PUBLIC SERVICES IN AFRO-ASIA; AN OVERVIEW

Von der Mehden, F.R.
1978, 32p

Rice (AID/otr-C-1394 Res)

The report begins by surveying types of communal representation and identifies four general reasons for the existence of communally non-representative bureaucracies: 1) influence of colonial policy, 2) uneven distribution of educational opportunities, 3) exclusion of certain political parties during periods of internal strife, and 4) conflicts between traditional African socio-cultural obligations and the training and behavioral code associated with the civil

service. The second section investigates the impact of communal non-representation on access to government services. Ethnic chauvinism and prejudicial administrative practices were seen to be widespread; inequitable distribution of services was exacerbated by the geographical and linguistic isolation of some groups. Section III discusses two sectors in which access to services is noticeably affected by the socio-cultural composition of the service bureaucracy--the social security benefit sector and the police/military sector.

PN-AAG-228

Paper copy \$3.84
Microfiche \$.93

(577) ISLAM, DEVELOPMENT AND POLITICS MALAYSIA

Von der Mehden, F.R.
1978, 27p.

Rice (AID/otr-C-1394 Res.)

Assesses the impact of Islam on economic development in Malaysia. The study first addresses the apparent inability of the Malaysian Moslem majority to compete economically with other Malaysian groups. This occurs despite the fact that Malay Moslems dominate the political and administrative structure. Traditionally, three factors are considered responsible for inhibiting effective economic initiatives on the part of Malay Moslems: 1) Islam's Messianic and ascetic orientation are not conducive to economic ambition, 2) specific Islamic practices (such as expensive religious festivals) are "economically dysfunctional", and 3) the major competing group, the Chinese, are culturally predisposed to entrepreneurial activity and modernization. Noting that Islamic groups in other countries have been commercially capable, the paper suggests an historical explanation for Malay Moslem economic limitations, arguing that British colonial policy reinforced Malay Moslem ruralism and parochialism so as to maintain order. Finally, the paper states that recent government measures supportive of Malay Moslem nationalism are inhibiting national economic growth, but that special subsidies, quotas, and other aid to the Moslem community are expanding the economic awareness and capabilities of its members.

PN-AAG-227

Paper copy \$3.24
Microfiche \$.93

URBAN DEVELOPMENT

(578) CONFERENCE ON HOUSING IN ASIA; NATIONAL SHELTER AND URBAN STRATEGIES

Conf. on Housing in Asia, Seoul, 1976; Korea National Housing Corp., Seoul
1978, 100p.

AID/SER/H

Presents the proceedings of the housing conference held in Seoul in October 1975. The meetings were attended by representatives from five Asian countries, the US, and various economic and educational institutions. During the course of five working sessions and several panel discussions, a wide range of issues related to Asia's severe housing problems were addressed. In most of the presentations the speaker focuses on his own country's existing and proposed housing policies, but several presentations on general urban planning and housing finance are also included.

PN-AAG-009

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URBAN DEVELOPMENT

(579) PHYSIOLOGICAL OBJECTIVES IN HOT WEATHER HOUSING; AN INTRODUCTION TO HOT WEATHER HOUSING DESIGN

U.S. Dept. of Housing and Urban Development
1979, 85p.

AID/SER/H

This handbook is a reprint of the 1962 edition and is intended to assist AID mission personnel and planners with the design of housing optimally compatible with tropical and subtropical climates. Basic information is provided on the physiological effects of climate upon man: man's heat regulatory mechanisms; the physics of heat exchange—conduction, radiation, and water vapor transfer (evaporation); the climatologies of tropical regions; and the factors affecting climatology—latitude, altitude, atmospheric impurities (clouds, particulate matter, mist), terrain, and winds and air mass movements. A major portion of this publication is devoted to solar radiation—what it is, the factors determining its intensity, and how man can control its effects on his body and his living environment. This leads to the primary focus of the handbook: how to design housing for hot and dry, or warm and humid climates which would minimize the detrimental effects of solar radiation and maximize the interior level of comfort. Pertinent topics dealt with include: insulation, ventilation, exterior configuration (building shape, construction materials utilized, roof types, building color), shading (trees, roof overhangs, window louvers and shutters), and water cooling methods such as airconditioning and roof-spraying. One chapter examines the special problems of locales which experience climatic fluctuations—hot-dry to warm-humid, warm-humid to temperate, warm-humid to cold-temperate—and the means and methods for mollifying the effects of these fluctuations. Another chapter offers suggestions for the optimal, functional layout of the interior of the dwelling, i.e. placement and design of kitchen, sleeping, storage, and laundry facilities. Five appendices are included at the end of the text: 1) a description of the heliodon used in the author's research; 2) a psychrometric chart and accompanying instructions; 3) tables showing the incidence of solar radiation through a clear sky, at different times of the day, upon various surfaces, for four latitudes through four seasons of the year; 4) a proforma for approximately determining temperature regime on the inner surface of homogenous walls; and 5) a list of important references pertaining to the subject of this handbook.

PN-AAG-254

Paper copy \$10.20
Microfiche \$.93

(580) AN INTEGRATED METHODOLOGY FOR RESEARCH ON MIGRATION, THE SIERRA LEONE RURAL-URBAN MIGRATION SURVEY

Byerlee, Derek; Tommy, J.L.
1975, 12p.

Mich. State (CSD-3625 Res.)

Describes an ongoing project to evaluate, and recommend policies regarding, rural-urban migration in Sierra Leone. The country's high rate of migration to cities is currently causing urbanization problems, urban unemployment, and rural labor shortages. This project employs a questionnaire survey of migrating and nonmigrating workers to characterize the migration process in terms of economic variables. These variables will be used to quantitatively analyze the determinants of individual decisions to migrate and will help in evaluating the effect of government policies on migration. The report outlines the project's data collection and migrant tracing procedures and describes survey coverage and methodology. A copy of the questionnaire survey is appended.

PN-RAA-508

Paper copy \$1.44
Microfiche \$.93

(581) FEASIBILITY STUDY FOR NETWORKING IN URBAN AND REGIONAL DEVELOPMENT

PADCO, Inc., Washington, D.C.
1975, 57p.

PADCO (AID/ta-C-1140 GTS)

Explains the basic concepts and present status of networking and suggests priorities and strategies for future networking activities. Networking is the effective exchange of information between diverse organizations concerned with similar development goals. Networking mechanisms include research data exchange and mutual advisory services. The report's introductory section emphasizes the need for development efforts which focus on urban areas and notes that the urban growth experience of more developed countries cannot be usefully applied to the radically different urban development conditions of less developed countries (LDC). The consequent need for international networking among LDCs is detailed in Chapter 1, which contains results of a survey of LDC development personnel. The LDC respondents generally indicated strong support for programs to improve development information exchange channels. Chapter 2 assesses the present status of networking and outlines major problems in existing LDC networks; Chapter 3 presents a schema for their improvement. In Chapter 4 priorities are suggested for AID support of LDC networks; these priorities comprise the establishment of a U.S. networking center and regional LDC networking groups, and the utilization of existing AID programs for networking activities.

PN-RAB-505

Paper copy \$6.84
Microfiche \$.93

HEALTH AND POPULATION

(582) PATTERNS OF HEALTH UTILIZATION IN UPCOUNTRY THAILAND; A REPORT OF THE RESEARCH PROJECT ON THE EFFECT OF LOCATION ON FAMILY PLANNING/HEALTH FACILITY USE

Day, F.A.; Leoprapal, Boonlert; Thailand. Dept. of Technical and Economic Cooperation
1977, 120p.

AID/ASIA/USAID/Thailand (AID-493-112-T)

This final report sets forth the general data, major findings, and recommendations from a comprehensive project on the use of different health providers in Thailand. Four different data sets were collected in the large rural upcountry province of Suphanburi: 1) a general survey on health search behavior of the local people, 2) data and opinions of health personnel, 3) government health facility use statistics and 4) a survey of outpatients at both the amphoe and changwat hospitals. Findings showed the universal appeal and wide use of drugstores for health and family planning needs. In the government sector the changwat hospitals showed high use, while the primary health care system experienced extreme underutilization. The government sector tended to cater toward the more modernized and urban population while the very remote areas were associated with the services of the injection doctor and granny midwives. Distance was shown to have a distinct inverse relationship with the use of government health facilities, with distance acting most as a deterrent to use of the amphoe hospitals, somewhat less to use of the changwat hospital and of least importance to the primary health care facilities which experienced more the problem of not being attractive to the local people. In the report a model of health search behavior is presented, several reasons for differential use of health providers are suggested, recommendations are offered as possible ways to ameliorate present problems of the health system.

PN-AAG-058

Paper copy \$14.40
Microfiche \$1.85

(583) SOCIO-ECONOMIC ANALYSIS OF IMPACT OF WATER PROJECTS ON SCHISTOSOMIASIS: FINAL REPORT

Rosenfeld, P.L.; Gestrin, P.J.; Resources for the Future, Inc., Washington, D.C.
1978, 156p.

Resources (AID/ta-C-1465-Res)

Presents results of an inquiry into the effects of water projects on the transmission of schistosomiasis, a parasitic disease, involving both human and snail hosts. The report describes the study's final stage, in which a previously developed schistosomiasis transmission model was tested using new field data related to small water projects in Tanzania. The study focuses primarily on the impact of changes in water availability on human contact with snail habitats, measures of infection in the human population, and the cost-effectiveness of data collection methods. In addition, the role of human migration in disease transmission is examined. After describing the basic model and reviewing the incidence and control of schistosomiasis in Tanzania, the report details modifications made with new Tanzanian data on the original model and provides model-related epidemiological analyses. Next, a cost-effectiveness analysis is performed for schistosomiasis control measures. These two analyses (epidemiological and economic) are subsequently combined to form a predictive methodology for use in project evaluation. Recommendations are made regarding future research.

PN-AAG-137

Paper copy \$18.72
Microfiche \$1.86

(584) A REVIEW EQUIPMENT SELECTION AND ACQUISITION PRACTICES IN HONDURAS' HEALTH CARE FACILITIES

Gonzalez, Jose
1978, 62p.

Gonzalez (AID/LAC-C-1279)

Suggests guidelines for developing a system to select, acquire, and maintain equipment for health care facilities operated by the Ministry of Health (MOH), Government of Honduras. The system will be used to determine equipment planning procedures and long-term quality-control measures for 10 hospitals and 119 rural health centers currently proposed or under construction. The various types of health facilities are described and their equipment needs are identified. Sections include suggestions for (1) a product standardization program; (2) human resources standards; (3) a resource guide to identify appropriate equipment; and (4) a training program for MOH personnel.

PN-AAG-216

Paper copy \$7.44
Microfiche \$.93

(585) BASIC HEALTH CENTERS; RURAL COMMUNITY HEALTH PROJECT OF INTEGRATED SERVICES IN SILIANA AND SIDI BOU ZID PROVINCES, TUNISIA

Christie-Shaw, Susan
1978, 48p.

Christie-Shaw (AID/ne-C-1524)

Reports on contract to advise and assist with preparation of designs for new and renovated health care facilities in Siliana and Sidi Zid provinces in Central Tunisia. This is part of an overall project to integrate health care services into one system. Includes project summary with weekly schedules of contractor's activities regarding new construction and renovation plans and a description of the integrated health care delivery system and its relation to physical facilities. Revised architectural program data, reflecting priorities and policies of the Ministry of Health are also presented. Detailed information on construction cost estimates and a section on recommendations and issues for discussion are provided. Also

included are a set of schematic drawings of the proposed facilities and detailed tables displaying the relationships between health care services and physical facilities.

PN-AAG-220

Paper copy \$5.76
Microfiche \$.93

(586) RURAL HEALTH DELIVERY SYSTEM PROJECT IN HAITI: EVALUATION PLAN FOR HEALTH AGENTS

Saulniers, S.S.
1978, 18p.

Saulniers (AID/LAC-C-1269)

Describes a recommended plan for evaluating performance of health agents in Haiti. The plan is designed to measure 1) delivery of health care services, 2) effectiveness of health agent in introducing preventive health care, and 3) effectiveness of agent in improving mother-child preventive health care relationships. The rationale for a separate and specific evaluation of health agent performance is discussed. The principal roles of the health agent are evaluated separately and as total performance, and on both group- and individual- effectiveness levels. Assessments of health agent performance are provided by a supervisory mobile unit, the dispensary-auxiliary nursing staff, health statisticians, and town community councils. A discussion of policy implications and benefits of such an evaluation process is included.

PN-AAG-221

Paper copy \$2.16
Microfiche \$.93

(587) RURAL HEALTH DELIVERY SYSTEM PROJECT IN HAITI: PROPOSED SUPERVISION FOR MONITORING HEALTH AGENTS

Saulniers, S.S.
1978, 21p.

Saulniers (AID/LAC-C-1269)

Presents a proposal for supervising and monitoring health personnel in a rural health delivery system in Haiti. Outlines the composition, activities, and responsibilities of the three components of the supervision system: 1) regional liaison officer, 2) mobile supervision units, and 3) card-based reporting system. Proposed coverage by supervisory teams and operation and implementation schedules are provided. Discusses the various aspects of supervision and methods of monitoring activities, as well as the rationale for the system, statement of purpose, and expected policy indicators. Copies of the instruments used in collecting data, a schematic diagram of the supervision system, and appendices reporting the experience of other rural health delivery systems in similar monitoring activities are included.

PN-AAG-222

Paper copy \$2.52
Microfiche \$.93

(588) RURAL HEALTH DELIVERY SYSTEM PROJECT IN HAITI: SUGGESTED LIST OF SOCIO-CULTURAL FACTORS TO USE IN BASELINE DATA COLLECTION FOR OBSERVING SOCIO-CULTURAL FACTORS AFFECTING RURAL HEALTH SERVICES DELIVERY

Saulniers, S.S.
1978, 8p.

Saulniers (AID/LAC-C-1269)

Identifies sociocultural variables which influence the rural health delivery system in Haiti. The paper, which is intended as a guide for designing a future surveys of this sector, contains six goals of baseline data collection. For each of these goals, specific indicators and hypotheses which relate the variable to the effective delivery of health care services are enumerated. The six data goals concern the identification of the following variables: (1) client population. (2)

HEALTH AND POPULATION

socio-structural factors affecting predispositions to modern health care; (3) previous exposure to preventive medicine; (4) birth and death rates; (5) morbidity rates; and (6) ecological factors inhibiting service.

PN-AAG-223

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(589) RURAL HEALTH DELIVERY SYSTEM PROJECT IN HAITI: EVALUATION OF PREVIOUS RURAL HEALTH PROJECTS IN HAITI

Saulniers, S.S.

1978, 82p.

Saulniers (AID-521-78-32)

Reviews and evaluates previous rural health projects in Haiti for the purpose of introducing a rural health delivery system effectively during the next five years. Interviews with health program staff members and others knowledgeable about these programs, as well as written reports and articles, were employed to gain information regarding project goals, methodology, and achievements. Particular attention is given to ecological, social, and cultural factors affecting project implementation. Reviews pilot health programs, which use paraprofessionals to administer primary health care in rural areas and educate rural residents in preventive health care. Compares two such programs regarding 1) selection of health agent candidates, 2) theoretical and practical components of training program, 3) general implementation scheme; and makes recommendations for efficient and effective health delivery system based on previous program experience. Also assesses organization and performance of the Community Health Program of Albert Schweitzer Hospital (Deschapelles) and the Integrated Program for Public Health and Population at Petit Goave, and lists recommendations based on their specific functions. Appendices include interview schedules used and proposed for use in field survey of the pilot programs and other data-gathering forms.

PN-AAG-224

Paper copy \$9.82

Microfiche \$.93

(590) A REPORT OF A SURVEY OF HOSPITAL MAINTENANCE IN HONDURAS HOSPITALS

Bershad, H.A.; Gonzalez, Jose

1974, 94p.

AID/LA/USAID/Honduras

Details the findings and recommendations of an AID tour of inspection undertaken to identify, and suggest remedies for, maintenance problems in representative Honduras hospitals. This report contains a brief review of the project's history and overall development, a general summary of findings and recommendations, and a step-by-step account of the inspection tours. Inspections were conducted at the Maternity Hospital, the Chest Disease Hospital, San Felipe General Hospital, and the Comavagua Regional Hospital and Health Center. The final section discusses the report's recommendations in detail. Appendices list people interviewed, provide photographs and catalog cuttings illustrating hospital equipment, and present sample job description forms for hospital maintenance staff.

PN-AAG-225

Paper copy \$11.28

Microfiche \$.93

(591) A TOPICAL OUTLINE FOR THE TEACHING OF FAMILY HEALTH; A LIFE-CYCLE APPROACH; MEDICINE

Isely, R.B.; N.C. Univ. Carolina Population Ctr.; N.C. Univ. Medical School

1977, 266p.

N.C. (AID/CM/pha-C-73-33)

Provides guidelines for family health curriculum developers. The volume, which was prepared by the African Health Training Institutions Project at the University of North Carolina, was designed to provide a framework for teaching family health care to medical students in Africa. It opens with an explanation of the development, goals, and most effective methods for using the courses of study suggested. The remainder of the text consists of separate teaching units, or modules, each dealing with a different aspect of general medicine. The outline emphasizes a holistic, lifecycle approach which takes into account the impact of community and family on individual patients and covers the specific medical needs of patients at each stage of life, from prenatal to old age. Each module contains a brief commentary on the subject matter, a list of learning objectives, a comprehensive outline of the subject's key aspects, and appropriate bibliographical information. The volume concludes with guidelines for teaching, program evaluation suggestions, and a directory of sources for teaching aids.

PN-AAG-232

Paper copy \$31.92

Microfiche \$2.79

(592) A TOPICAL OUTLINE FOR THE TEACHING OF FAMILY HEALTH: A LIFE-CYCLE APPROACH NURSING AND MIDWIFERY

Edmands, E.M.; N.C. Univ. Carolina Population Ctr.; N.C. Univ. Medical School

1977, 293p.

N.C. (AID/CM/pha-C-73-33)

Presents an organized compendium of teaching topics related to nursing and midwifery. The volume, prepared by the African Health Training Institutions Project (AHTIP) at the University of North Carolina, is intended as a guide for nursing and midwifery education curriculum developers, particularly those concerned with AHTIP projects. The outline opens with several introductory chapters explaining the development, goals, and most effective methods for using the courses of study suggested. The remainder of the volume consists of separate units, or modules, each dealing with a different aspect of nursing and midwifery. The outline emphasizes a holistic, life-cycle approach, which take into account the impact of community and family on individual patients. Module topics include, among others, assessment of a community's health service needs, cultural attitudes toward pregnancy and birth, basic labor and delivery care, child development, nursing intervention for adults and the aged, and family planning.

PN-AAG-233

Paper copy \$35.16

Microfiche \$2.79

SCIENCE AND TECHNOLOGY

(593) PRELIMINARY WORKSHOP REPORT (ON) SCIENCE AND TECHNOLOGY POLICY, PLANNING, AND MANAGEMENT IN EGYPT

National Research Council. Board on Science and Technology for Int. Development

1975, 20p.

NAS (CSD-2584 GTS)

Summarizes recommendations and conclusions of a joint U.S. Egyptian workshop held in May 1975 in Cairo. The purpose of the workshop was to identify problems and propose solutions related to R&D management in universities and applied research institutes. The report provides the workshop's agenda and enumerates conclusions reached by the participants. Notable among the areas of consensus; 1) While Egypt's scientific and technological effort is impressive, policy execution needs restructuring, 2) Competent R&D staff and facilities are crucial to the successful adaption of foreign technologies to Egyptian needs. The participants also drew up recommendations calling for,

among other measures, the establishing of management training programs and a comprehensive national science plan. A list of participants concludes the report.

PN-AAC-409

Paper copy \$2.40
Microfiche \$.93

(594) REPORT OF THE JOINT AD HOC COMMITTEE FOR SCIENTIFIC AND TECHNICAL COOPERATION

Council for Scientific and Industrial Research of Ghana; National Research Council. Board on Science and Technology for Int. Development
1975, 120p

NAS (CSD-2584 GTS)

Contains the proceedings of a meeting jointly convened by the Council for Scientific and Industrial Research (CISR) of Ghana and the U.S. National Academy of Sciences (NAS). The purpose of the conference, held in Washington, D.C. in July 1974, was to plan mechanisms to aid agricultural and rural development in Ghana. The conference was attended by representatives from AID, the World Bank, and the Smithsonian Institution, as well as by NAS and CSIR officials. This proceedings report begins with a review of the proposed development mechanisms. These include the creation of a Planning and Analysis Group to determine science policies and research priorities and the establishment of an ad hoc joint study group to investigate the agricultural impact of drought in the savannah region of northern Ghana. The conference also specified areas particularly in need of scientific and industrial research and proposed the establishment of instrumentation and information facilities. AID and World Bank assistance to Ghana was discussed, and the CSIR-NAS Cooperative program was reviewed. Finally, it was agreed that a CSIR-NAS committee meeting would be held annually. This proceedings report contains the text of opening remarks, speeches, and discussions.

PN-AAC-410

Paper copy \$14.40
Microfiche \$.93

(595) GRANULAR UREA; ADVANTAGES AND PROCESSES

Waggoner, D.R.
1975, 16p

IFDC (AID/ta-G-1218 GTS)

Reviews the newest technologies for granular urea production and discusses advantages (notably economic) or granulation over conventional prilling process. Urea is a nitrogen fertilizer increasingly used in Asia; it is processed by one of two methods: granulation and prilling. The report begins by summarizing reasons why granular urea is preferable to prilled urea. Granular particles are well-suited for blending and for use in coating processes, feature high abrasion resistance, and their production entails relatively few environmental hazards. Next, the three major granulation processes are reviewed; these are TVA Pan Granulation, Norsk Hydro Pan Granulation, and Fisons Granular Urea Process. The report provides information on converting a prilling process to a granulation process, and summarizes both wet scrubber and dry collection methods for solids recovery. Numerous tables and figures accompany the text.

PN-AAG-079

Paper copy \$1.92
Microfiche \$.93

(596) APPROPRIATE TECHNOLOGY FOR THE MIDDLE EAST; A GRASS ROOTS APPROACH FOR TECHNICAL DEVELOPMENT AND CO-OPERATION IN THE REGION

Seireg, Ali
1978, 91p.

Wis. (AID/ne-C-1554)

Proposes avenues for development of appropriate technology in

the Near East (Egypt, Israel, Jordan, Syria, the West Bank, and the Gaza Strip). Specific proposals for 18 project areas are offered, including estimated timetable and cost. These proposals are based on existing conditions and resources, needs, expected benefits, and potential for regional cooperation. Contains bibliography, and appendices outlining the economic base for each country in the region and listing science and technology institutions capable of supporting the development of appropriate technology.

PN-AAG-248

Paper copy \$10.92
Microfiche \$.93

(597) INDICATORS OF SCIENTIFIC AND TECHNOLOGICAL EFFORTS IN THE MIDDLE EAST AND NORTH AFRICA

Frame, J.D.; Sprague, A.N.
1978, 152p.

AID/DS/OST

Compiles extensive data on scientific and technological (S&T) projects in 13 Middle Eastern and North African countries. They are Algeria, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Saudi Arabia, Syria, and Tunisia. The data includes information for each country on S & T manpower and funding, graduates in engineering and the sciences, published research activity, science policy bodies, and the principal research institutions. In addition, socio-economic profiles are presented for the 13 countries, providing individual contexts in which each nation's scientific activity can be better understood. The data is prefaced by a brief statistical overview which discusses overall data reliability and some of the more striking inter-country differences in S&T development. Figures and tables supplement the data, and a glossary and data source list are appended.

PN-AAG-235

Paper copy \$18.24
Microfiche \$1.86

(598) NEAR EAST COOPERATION IN SCIENCE AND TECHNOLOGY

Pollack, Herman; Baynard, S.A.
1978, 58p.

Geo. Wash. (AID/ne-C-1551)

Examines the process through which science and technology cooperation might be initiated between Egypt and Israel, and secondarily, between Jordan and Israel. A review of literature and more than sixty interviews with senior government officials and members of the academic community form the basis of this report. Contains (1) discussion of Arab State cooperation, (2) Egyptian, Jordanian and Israeli perspectives on science and technology exchanges, (3) observations and recommendations concerning the potential for cooperative relationships among these countries, and (4) selected bibliography.

PN-AAG-246

Paper copy \$6.96
Microfiche \$.93

(599) THE OIL DRUM; HUMBLE APPROPRIATE TECHNOLOGY BUILDING BLOCK

Hammond, R.W.
1978, 14p.

Ga. IT (AID/CM/ta-G-73-18 211 (d))

On the basis of the numerous innovative applications developing countries have found for its re-use, the standard 55-gallon oil drum qualifies as a significant Appropriate Technology "building block". This report describes several of the more ingenious applications, discovered by the Georgia Institute of Technology during its involvement with international development activities in 30 countries. Storage and transport of liquids and solids represent two standard, world-wide uses for the oil drum. Its relative light weight, high durability, and air-tight sealing capability make it an ideal, vermin-proof, contamination-proof storage container or spill-proof shipping container. Observations in various countries

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