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on  
Rural Off-Farm Employment

by  
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and  
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## Introduction

During the past four years, there has been increasing interest among LDC governments and international donor agencies in the role of rural off-farm employment and rural small-scale industries in rural development strategies. Researchers have contributed to this interest by pointing out the problems many countries have encountered in pursuing large-scale, capital-intensive industrialization. Research has also demonstrated the importance of rural off-farm activities in total employment and the significant role of off-farm work in farm household time allocation and total household earnings.

This bibliography summarizes some of the important recent work completed in this area. It focuses on the results of long-term research and largely ignores the substantial number of consultant reports and project documents available which deal with specific projects and programs. The emphasis is on research conducted in LDC's, but many other items of general methodological and theoretical interest are also included. We recognize that some important research has undoubtedly been overlooked in this review and would appreciate having these items called to our attention.

Several people worked on locating and abstracting the items included here. Marcia Gowen and Al Smith did some of the early work, while Adelaida and Tom Bacon completed more of the recent abstracts. Adelaida completed the final editing and proofreading.

Richard L. Meyer

The American Small-Scale Industry Delegation, Rural Small-Scale Industry in the People's Republic of China, University of California Press, Berkeley and Los Angeles, California, 1977.

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Book reports on four week trip to China by twelve-member team of engineers and social scientists organized by Committee of Scholarly Communications. Delegation visited several small-scale industries in rural areas. Rationale for small-scale rural industry includes inadequate transportation, bureaucratic problems with centralized planning, save time, utilize local resources (especially coal, limestone and labor) and reduce rural-urban economic and social gap. Early emphasis was on cement and fertilizer plants. Industries emphasize appropriate technology but strive to reduce demand for labor. Labor saved is expected to be channelled to other productive work.

Anderson, Dennis and Mark W. Leiserson, "Non-Farm Rural Employment in Developing Countries," September 1977, paper presented at the Joint Meeting of the Latin American Studies Association and the African Studies Association, Houston, Texas, November 2-5, 1977, World Bank, 1818 H Street, N. W., Washington, D. C. 20433

File No. 249

Paper assesses the character and growth of rural non-farm employment, the role of rural non-farm activities in development, and their linkage to agricultural growth. The major conclusions are: (1) non-farm activities are a primary source of employment and earnings for approximately one-quarter of the rural labor force in LDC's, (2) a rising share of the rural labor force is engaged in non-farm work, (3) non-farm activities become increasingly concentrated in rural towns, and (4) non-farm activities are an essential element in economic development and structural change in rural economies.

Anderson, Dennis and Mark W. Leiserson, Rural Enterprise and Non-Farm Employment, A World Bank Paper, January 1978, World Bank, 1818 H Street, N. W., Washington, D. C. 20433.

File No. 272

Paper examines role of non-farm activities in rural areas and towns. First, the extent, growth and composition of rural non-farm employment are studied. Second, various policies to assist rural non-farm activities are described. Third, specific Bank-lending programs are discussed.

Andress, Ruth, "The Role of Attitudes in the Labor Force Participation of Married Women," November 3, 1978, unpublished paper, College of General Studies, University of South Carolina, Columbia, South Carolina 29208.

File No. 304

Study analyses the role of attitudes in the labor force participation decision of married women. It is hypothesized that attitudes related to presence of children, to woman's role in the household, to personal fulfillment, and to the social responsibility of working will be important factors. Data were obtained from two surveys.

Attitudes towards children ranged from neutral to extremely facilitating of wife's working. Husbands believed that wives without children should work. With children, however, men held neutral attitudes while women had a moderately facilitating attitude.

Married women with 16 or more years of schooling strongly felt the need for a career. Education raises expectations of needing outside work for fulfillment. Higher husband's income increases non-working of wives.

Anton, L. R. , "Promotion of Small and Medium Industries in the Philippine Islands," Contract No. AID/CM/ASIA-C-73-12. April 1973, Agency for International Development, Washington, D. C. 20523.

File No. 161

Author provides information regarding the government of the Philippines desire for a program of small and medium scale industrialization in the Philippines. The author also examines the structure and functioning of governmental support activities.

Ashenfelter, O. and J. Heckman, "The Estimation of Income and Substitution Effects in a Model of Labor Supply," in Econometrica Vol. 42, No. 1, January 1974, p73-87.

File No. 130

Paper contains the formulation of the theoretical restrictions on the labor supply functions of the husband and wife in a model of family labor supply. It also contains an application of the proposed empirical model to cross-sectional data from the 1960 U. S. Census of the Population.

Asmon, I. , "Rural Industrialization in Mexico," March 17-21, 1975, unpublished paper, Inter-American Development Bank, Seminar on Agricultural Policy, Washington, D. C.

File No. 158

Author discusses extent to which rural industrialization fulfills the goals of augmenting rural employment and income, and slowing urban migration. Paper also considers which industries are best for a rural location, and the institutional support required for their successful establishment.

The two most promising lines for rural industrialization are handicraft production and peasant-owned resource based industries. Key problem in handicraft production is marketing. Resource-based industries including agricultural livestock and fish processings, forestry and quarrying industries are generally capital-intensive, and their economically optimal location is at the urban center of a rural area.

Bardhan, Kalpana, "A Survey of Research on Rural Employment, Wages and Labor Markets in India," May 1976, unpublished paper, World Bank, 1818 H Street, N. W. , Washington, D. C. 20433.

File No. 290

Paper surveys literature on the rural labor market in India. Section I surveys literature on size, characteristics, and composition of rural working force, employment and migration. Section II covers studies on labor demand implications of production growth with technological change emphasizing seed-water-fertilizer innovation and tractor technology. Section III surveys wage determination in agriculture, the dual market hypothesis, the hypothesis of institutionally determined constant real wages, nutritionally based wage determination, and seasonality factors in wage determination. Section IV surveys data and studies on labor time disposition and on farm-level demand for family and hired labor.

Bardham, P. K. , "Labor Supply Functions in a Poor Agrarian Economy," in The American Economic Review Vol. 69, No. 1, March 1979, p. 73-83.

File No. 317

Study utilizes data from 4,900 rural households in West Bengal to estimate labor supply functions. Data are part of a household survey conducted by the National Sample Survey Organization in India, 1972-73.

Study concludes wage response of labor supply is significantly positive for agricultural laborers, small cultivators and women in the usual labor force. The wage response is not significant for cultivators of all size groups taken together.

Elasticities of aggregate supply of farm wage labor for all adults with respect to weighted average farm wage and expected wage rate were 0.29 and 0.2, respectively.

Hiring-out was positively related to number of adult workers in the family and number of dependents per earner and negatively related to area cultivated, level of living and adults' educational levels. Labor participation of women is positively associated with lower caste families, widowed women, and busy season and negatively associated with number of dependents, number of adult males in household, village unemployment rate, and family standard of living.

Barros, G., "Asking Wages, Market Wages, and The Off-Farm Labor Supply by Farm Operators," 1976. unpublished Ph. D. Dissertation, Department of Economics and Business, North Carolina State University at Raleigh, North Carolina 27607.

File No. 77

Study investigates factors affecting farmer's decision to work off the farm. Argues that the asking wage and offered wage were determinants of the probability of working off-farm work.

Model was tested using data from a survey of farm operators in Illinois during 1971. Logit analysis was used to estimate the probability of working off the farm, and explain hours of work off the farm.

Findings showed level of schooling by operators affected both asking and offered wage until middle age. Area farmed, hours of family labor, wife's schooling, and farm experience were negatively related to the probability of off-farm work and number of hours worked. Job experience and health were positively related to both.

G. G. Barton & Company, "Problems and Prospects of Small Industries in the Republic of Vietnam," December 1974, Industrial Development Bank of Vietnam, Republic of Vietnam.

File No. 201

Study describes characteristics and conditions of small-scale industrial enterprises in South Vietnam, assesses their problems and constraints, and analyses ways to promote small scale industries. Study is based on interviews, case studies, surveys and personal observations.

Several major constraints were identified including: (1) high and inequitable taxes; (2) raw materials in short supply and subject to dramatic price fluctuations; (3) lack of local market demand; and (4) governmental regulation and red tape.

Any program to develop small industry must treat these several constraints.

Barzel, Yoram and Richard J. McDonald, "Assets, Subsistence, and the Supply Curve of Labor," in American Economic Review Vol. 63, 1973, p. 621-633.

#### OSU Libraries

The authors argue that the value of assets affect the supply of labor. The very poor should have a negatively sloped supply of labor curve, assuming the initial wage is below subsistence, as wages increase survival becomes possible by supplying highest physically possible amount of labor. As the wage rate rises, no more labor can be supplied. For those whose assets are above subsistence level, the labor supply will be positive.

Bateman, W. Lanny and Odell Walker and Raleigh A. Jobs, "On Part-Time Farming," in Southern Journal of Agricultural Economics Vol. 6, No. 2, December 1974, p137-142.

#### OSU Libraries

Study examines part-time farming in southern states, concentrating on beef farms. Part-time farmers control an important amount of beef production in the south so their characteristics significantly affect beef production. Availability of operator labor showed more flexibility on the part-time farm. Despite equipment utilization differences, costs might be equalized due to lower annual use by part-timers. Part-time farmers could profitably exist longer in intensive production during price declines. No significant differences in risk acceptance appeared.

Becker, G. S. , "On the Relevance of the New Economics of the Family," in American Economic Review Vol. 63, No. 2, 1974, p. 317-320.

OSU Libraries

Author on overview of the "new" household economics. He presents a good summary of this theory and its possible usages in contemporary analysis.

Berry , Al, "Non-Agricultural Activities in Rural and Small Town Areas of Latin America." 1976, unpublished paper, World Bank, 1818 H. Street, N. W. , Washington, D. C. 20433.

File No. 75

Differing levels of development suggest that substantial variations in rural nonagricultural activities are occurring in Latin American countries. Paper presents detailed information about extent of nonagricultural activities in Colombia and reviews some evidence available for other Latin American countries.

As of 1951, about 21 percent of manufacturing employment was located in rural areas. The five largest cities had another 35 percent, while towns and smaller cities had around half of all manufacturing employment. By 1970, rural areas registered 18 percent and the largest five cities had about half the total manufacturing employment.

Factories have been concentrated in the larger cities with more labor intensive operations found in rural areas.

Berry, Nancy, "Small Industries and Rural-Urban Development." November, 1975, unpublished paper, CPS, Rural Development Division.

File No. 6

Author discusses role that small scale industry should play within developmental schemes. A major objective is to increase regional production and employment by linking industrial and agricultural production. Prime beneficiaries should be rural poor. The small scale industry should provide goods and services to local consumers rather than export market.

Author identifies the needs of the small scale industry. The most apparent shortcoming is the lack of human capital, particularly in management and marketing. Many small firms lack capital, find credit difficult to obtain, and do not employ appropriate technologies.

Berry, R. A. , "The Relevance and Prospects of Small Scale Industry in Colombia." Center Discussion Paper No. 142, April 25, 1972, Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, Connecticut 06520.

File No. 86

Study shows the majority of the labor force in Colombia's manufacturing sector is in "Cottage-Shop" establishments, defined as less than five workers and less than 24,000 pesos output. Plants with more than 100 workers represent 20-25 percent of the total employed labor force. Composition of the cottage shop and small firm sector has varied substantially. During the 1960's, the small enterprises share in the clothing and footwear industry decline, while the food, wood, and metal industries increased their share of the labor market.

Author suggests possible long run replacement of household industries by small modern factories, the avoidance of laws which discourage artisans the avoidance of introducing obsolete crafts, and the encouragement of vocational and adult training.

Bilsborrow, R. E. , "Effects of Economic Dependency on Labor Force Participation Rates in Less Developed Countries," in Oxford Economic Papers Vol. 29, No. 1, March 1977, p. 61-83.

File No. 118

Paper analyzes effect of economic dependency on labor force participation rates in less developed countries. The author used multiple regression to investigate relationships between age-sex labor force participation rates and economic dependency, urbanization, education, income per capita and the sectoral composition of output.

Hypothesis that the dependency burden stimulates greater labor force activity be rejected. Greater dependency burdens are associated with lower female and total labor force participation rates.

Bilsborrow, Richard E. , "Effects of Economic Dependency of Labor Force Participation Rates in Less Developed Countries," in Oxford Economic Papers Vol. 29, No. 1, March 1977, p 61-83.

File No. 301

Paper analyses effects of economic dependency on labor force participation rates (LFPRs) in less developed countries. Greater output per family could partly compensate for the increased consumption burden caused by increased dependency ratios. Data from the UN and International Labor Office are analyzed.

Evidence suggests that countries with higher economic dependency ratios have lower LFPRs. Countries with rising economic dependency ratios have experienced a relative decline in LFPR by females.

Birowo, A. T., "Agricultural Credit in Jati Village, West Java Province of Indonesia: A Case Study," Working Paper No. 10, 1975, FAO Agricultural Credit Case Studies, FAO, Rome.

File No. 152

Case study of one village where off-farm income is one source of household liquidity. Forty-five of the sixty two farm households reported off-farm employment. For the smallest sized farms, off-farm income represented a large share of total income. All small farms reported off-farm employment. Larger farms with higher total liquidity reported off-farm employment in government employment, transport, and trade. Smaller lower liquidity farms reported off-farm sources largely in trade, crafts and farm labor. Over half the persons engaged in off-farm employment worked as farm laborers with substantially lower incomes per person. Author recommends financing off-farm employment to improve welfare of poorest households.

Bishop, C. E., "Programming Farm-Nonfarm Allocation of Farm Family Resources," Journal of Farm Economics Vol. 38, No. 2, May 1956, p. 396-407.

File No. 318

Author reports on study of part-time farms in North Carolina. A linear programming model of a typical part-time farm was developed including minimum levels of family subsistence activities, crops, livestock, commercial egg production, renting out land, and nonfarm employment. With initial capital restriction of \$4,500 and interest rate of five percent, large amount of nonfarm employment entered the solution. As capital increased, nonfarm employment fell and egg production increased. Thus when capital is restricted, nonfarm employment appeared to substitute for capital using enterprises.

Bloch, F., "The Allocation of Time to Market and Non-Market Work Within a Family Unit," November 1973, unpublished Ph. D. Dissertation, Department of Economics, Stanford University, Stanford, California 94305.

File No. 280

Study examines allocation of time to market and non-market work within American family units. Data source is the National Study of Working and Planning compiled at the University of Michigan Survey Research Center in 1965. Data were obtained through personal interviews with 2,214 families. A quadratic function relating the choice of hours of work to non-wage income, wage rates, and several demographic variables is estimated.

Study shows that at the mean level of non-wage income, a thousand dollar increase in non-wage income of wives (husbands) decreases market work by 25.95 (23.74) hours per year. The income effect for husbands and wives are therefore virtually identical. Husbands may have a backward-sloping labor supply curve. The hours allocated by wives to market work is found to be a concave function of wage rates. Number of children affects hours of market work for both husbands and wives.

Bollard, Alan, "T-Shirts and Tapa Cloth: A Handbook of Small Rural Businesses for the Pacific." March 1979, South Pacific Commission, Noumea, New Caledonia.

File No. 307

Handbook describes small businesses for Pacific villages including processing of crops and livestock, craft work, home industry, building processes and village services. Necessary equipment and materials, management skills, marketing and suitable business organization are discussed for each. Handbook is written for rural development workers, extension officers and others encouraging new rural economic activities and for government planners who select, program, promote or finance rural projects.

Bollman, R. D., "Off-Farm Work by Farmers: A Study with a Kinked Demand for Labor Curve." February 1978, Manuscript submitted for publication as a Census Analytic Study, Ottawa, Canada.

File No. 265

Study analyzes inter-relationships between the off-farm and on-farm activities of farmers.

A stable relationship was found between off-farm participation and the production of certain food commodities. Operators of forestry, poultry, fruit and vegetable, livestock and small grain farms reported above average participation rates. Operators who do not work off the farm tend to diversify farm operations.

The cross-section analysis tested linear, probit, and logit response models to explain the probability of working off the farm. Cross farm sales were found to reduce off-farm supply. Hired labor and part-time family labor were substitutes for the operator's on-farm labor, while full-time family labor appears as a complement.

Bollman, Ray D., "Economics of Off-Farm Work by Census Farm Operators: Theory and Preliminary Evidence." July 5-7, 1976, unpublished paper. Presented to the Annual Conference of the Canadian Agricultural Economics Society, Halifax, Canada.

File No. 57

Paper derives a kinked labor demand curve to explain and analyze off-farm work by census farm operators in Canada.

Demand for operator's labor on and off the farm, and the operator's total labor supply curve are used to analyze the probability of operator participation in off-farm work. Preliminary results for Nova Scotia are presented.

Bollman, R. D., "Off-Farm Work by Operators of Canadian Census-Farms 1971," in Canadian Farm Economics Vol. 3, No. 6, 1973, p1-5.

File No. 56

Paper presents information obtained from the 1972 Agriculture Enumerative Survey of 6,000 census-farm sample. One-half of the sample reported some off-farm work ranging from 66 percent of the operators with gross sales of less than \$2,500 to 38 percent of the operators with gross sales of \$25,000 or greater. As farm size increased, the percentage of operators reporting off-farm work decreased. Author stresses the importance of studying the farm versus off-farm trade-off of returns to labor.

Boulier, Bryan, "Children and Household Economic Activity in Laguna, Phillipines." Discussion Paper No. 76-19, 1976, Institute of Economic Development and Research, School of Economics, University of Phillipines, Diliman, Quezon City, Phillipines.

File No. 62

Paper presents preliminary findings on impacts of children on household economic activity. Paper summarizes family time data and estimates contribution of children to family income for 573 rural households.

Study concludes that children contribute time to income earning activities and to family income, play an important role in non-income home production and child care activities, and stimulate father to work longer at expense of leisure. Young children reduce mothers' work time and leisure. Older males substitute for mothers' work time, and older females substitute for mothers' home production time. Older children of both sexes appear to increase mothers' leisure.

Bryant, W. K. , "Household Capital/Labor Ratios in Farm Families. " Working Paper RP 76-12. NYS College of Human Ecology, Cornell University, Ithaca, New York 14850.

File No. 23

Author employs new household economics in determining the capital/labor ratios of the farm family household. Study examines how the household capital/labor ratios of farm families respond to change in the prices of family members' time, in family income, in family size, and in characteristics of the farm enterprise. Author developed empirical models in which neither the husband nor the wife worked off the farm, only the husband worked off the farm, only the wife worked off the farm, and in which both the husband and wife worked off the farm.

Results indicate that household activities of poor farm families experience capital intensification relative to the wife's time as family income rises. Household activities undergo capital intensification as the value of the wife's time increases. There was little evidence to suggest that farm production inputs play a role in determining the capital/labor ratio.

Butz, W. P. , "Notes on Using Human Capital and Household Production Models in Less-Developed Countries. " November 1976, Rand Corporation, Santa Monica, California 90406.

File No. 166

Author argues that human capital and household production models will contribute to understanding family behavior in developing countries. Several new variables are suggested to be integrated into the models. Concept of the optimizing peasant is examined.

Author examines link between the market wage and the opportunity cost of time, the importance of children's economic value, and the importance of variations in breast feeding. Implications for household surveys in developing countries are noted.

Butz, W.P. and J. DaVanzo, "Economic and Demographic Family Behavior in Malaysia: A Conceptual Framework for Analysis. " Contract No. R-1834-AID. October 1975, Rand Corporation, Santa Monica, California 90406.

File No. 229

Report describes a research design for analyzing economic and demographic behavior with retrospective and longitudinal household survey data.

Authors employ the conceptual framework of the New Household Economics that families engage in various market and non-market activities to satisfy their wants. Couples' activities regarding fertility, child care, schooling, and labor force participation are viewed as responses to their surroundings. Of particular interest are: (1) change in families' surroundings that affect the relative costs and rewards of various market and non-market activities and (2) changes in family wealth.

Byerlee, Derek, "Indirect Employment and Income Distribution Effects of Agricultural Development Strategies: A Simulation Approach to Nigeria." African Rural Employment Paper No. 9, 1973, African Rural Employment Research Network, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 104

Paper proposes a simulation approach to exploring agricultural-non agricultural interactions to evaluate the effects of agricultural development strategies on output, employment and income distribution. Interrelationships between sectors are reviewed within the conventional two-sector framework. It is concluded that a generalized analysis of interactions requires a model that explicitly considers several types of interactions in product and factor markets.

A simulation model is developed to analyse the indirect effects of alternative food and export promotion strategies in Nigeria. Results suggests little conflict between the multiple objectives of growth in employment and income distribution. Limitations of the model are discussed and areas for micro-level research are proposed.

Byerlee, Derek and C. K. Eicher, "Rural Employment, Migration and Economic Development: Theoretical Issues and Empirical Evidence from Africa," August 26 - September 4, 1972, unpublished paper. Presented to the Conference of the International Economics Association on the "Place of Agriculture in the Development of the Developing Countries," Bad Godesburg, W. Germany, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 102

Paper presents a framework for the analysis of rural employment in economic development.

Micro-level analysis of African rural labor markets shows substantial labor mobility between farm and non-farm jobs, between farms of different size, and between regions. Market has adjusted over time with the introduction of cash crops, through use of seasonal slacks in labor demand, reduction in non-farm activities and use of leisure time. Rural-urban migration is rapid in response to the rural-urban income differential.

Byerlee, D. and others, "Rural Employment in Tropical Africa: Summary of Findings," African Rural Economy Paper No. 20, February 1977, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 276

Paper summarizes results of the research project, "Rural Employment in Tropical Africa: A Network Approach." USAID Contract AID/CSD 3625. Sierra Leone was chosen as the focus for study.

In most African countries 70 percent or more of the population resides in rural areas. Rural population is increasing at 1.5 to 2.0 percent per annum. Labor inputs of adults in tropical Africa are substantially below figures reported elsewhere in Africa. Under-utilization of labor exists in slack (dry) seasons, while peak season labor demands act as constraints on farm output and income.

The proportion of male labor inputs devoted to non-farm activities varies from 11 percent in Sierra Leone to 47 percent in Northern Nigeria. The most important component of nonfarm activities is small-scale industry.

Cain, G. C. and M. D. Dooley, "Estimation of a Model of Labor Supply, Fertility and Wages of Married Women," in Journal of Political Economy Vol. 84, No. 4, Part 2, August 1976, p.179-200.

File 121

Authors extend the analysis of labor supply of married women to the related choices concerning wage rates and fertility behavior. Unit of observation is the standard metropolitan statistical area. Data were obtained from the 1970 census and aggregated for various ethnic and age groupings.

The empirical model corresponds closely to the theory of household decision-making. Results suggest the wife's labor supply is determined jointly with wife's fertility and wages.

Cavazzani, Ada, "Part-Time Farming and the Common Agricultural Policy," July 1977, unpublished paper. Center for European Agricultural Studies, WYE College-University of London.

File No. 215

Author discusses the main features of the Common Agricultural Policy (CAP) and its effects on European agriculture, and raises questions of relationship between part-time farming and CAP. Main question is that part-time farming is a negative form of production. Part-time farming, however, grows due to farm families' efforts to raise their standard of living. Paper presents hypotheses about the development of part-time farming in Europe.

Cavazzani, Ada, "Part-Time Farming: A Functional Form of Agricultural Organization in the United States," February 1977, unpublished paper, Department of Rural Sociology, New York State College of Agriculture and Life Sciences, Cornell University, Ithaca, New York 14850.

File No. 230

Paper deals with part-time farming in industrial societies with particular reference to the U. S.

Author concludes that the decrease in number of farms has not been accompanied by a decline of part-time farming. The stability of these operators and the steady increase of part-time farmers show the phenomenon is not transitional. The only period of decrease is between 1954 and 1964 when farm numbers underwent their sharpest reduction due to technological revolution.

In 1969 more than half of all farms were part-time farms with 54.2 percent of operators working off-farm and 40 percent working 100 days and over.

Child, F. C. and H. Kaneda, "Links to the Green Revolution: A Study of Small-Scale, Agriculturally Related Industry in the Pakistan Punjab," in Economic Development and Cultural Changes Vol. 23, No. 2, January 1975, p. 249-275.

File No. 135

Authors examine interaction between the small-scale engineering industry providing diesel engines, pumps, strainers, and farm implements, and the "Green Revolution" agricultural sector. Data were collected during the years 1969-70 from a stratified sample of 173 firms in the Punjab region.

Study indicates industry responded to the needs of agriculture by supplying tube-well equipment and setting the stage for the Green Revolution. Rising production created bottlenecks which provides new opportunities for capital formation through backward linkages. Increased demand for capital goods generated employment and increased agricultural productivity.

Chuta, Enyinna, "The Economics of the Gara (Tie-Dye) Cloth Industry in Sierra Leone," February 1978, Working Paper No. 25, African Rural Economy Program, Department of Agricultural Economics, Njala University College, Njala, Sierra Leone, and Michigan State University, E. Lansing, Michigan 48824.

File No. 277

Study describes existing methods of gara dyeing, analyzes efficiency and profitability of different production methods, identifies constraints on management, production and marketing and discusses policy implications.

Data were collected from 22 firms and gara cooperatives. Results showed private gara producers earn between U. S. \$880 - \$3,300 annually; traditional dyers using native indigo dye earn the highest economic rate of return on capital; about 50 percent of gara dyers need improved efficiencies in input use; and gara cooperatives must overcome present organizational and marketing problems.

Child, Frank C. and Mary E. Kempe, "Small Scale Enterprise," Occasional Paper No. 6, 1973, Institute for Development Studies, University of Nairobi, Nairobi, Kenya.

File No. 269

Volume contains eleven papers prepared for a conference on small-scale enterprises held at Langata, Kenya, in February 1973. Conference placed special emphasis on very small-scale enterprises located outside metropolitan areas. Some recommendations are: extension service should be created for small business development; the entire legal and regulatory structure affecting small businesses should be reformed; greater coordination is required among various government programs of assistance to small businessmen; Kenya should search for product design and production methods appropriate to its capital-scarce, labor-abundant economy.

Chuta, E. and C. Liedholm, "The Role of Small Scale Industry in Employment Generation and Rural Development: Initial Research Results from Sierra Leone." African Rural Employment Paper No. 11, 1975, Department of Agricultural Economics, Njala University, Njala, Sierra Leone and Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 28

Paper presents a progress report on a study of small scale industry and employment generation in both urban and rural areas in Sierra Leone. Empirical evidence indicates that the small scale industrial sector is extensive in establishments and employment. The average size of these establishments were quite small and 95 percent are located in the rural areas. Tailoring was found to be the most important activity, followed by carpentry, gara dyeing, and baking.

Cleave, J. R. , African Farmers: Labor Use in the Development of Smallholder Agriculture. 1974, Praeger Publishers, New York, New York

#### OSU Libraries

Book examines key issues of tropical African rural developments and factors influencing the use of their labor in meeting the demands of development and growth.

The chief finding is that while a considerable amount of time is devoted to a wide range of nonfarm activities, in most cases the time spent varies greatly and is inversely related to the variation in time spent in agriculture. An exception to this rule are wives who tend to reduce their leisure time when more work is done in the fields. Presumably, this is because there is little reduction possible in the household work which occupies two-thirds of their time spent in non-agricultural work.

Daines, Samuel R. , "El Salvador Agroindustrial Profile: An Assessment of the Potential of Agroindustry to Contribute to the Income and Employment of the Rural Poor." June 1977, Prepared for AID Mission to El Salvador, Agency for International Development, Washington, D. C. 20523.

#### File No. 200

Paper analyzes the impact of agroindustrial activity on the rural poor. Three impacts of agroindustry are: (1) as a direct employer of surplus rural labor, (2) stimulating farm production of raw materials, and (3) creating institutional links to the small farms.

Data are drawn from the Industrial Census of 1971 and contain over 16,000 small scale establishments, mostly located in rural areas or small villages. A statistical profile of the agroindustrial sector is provided.

Daines, S. , F. Morrow and W. Rodgers, "Rural Enterprises: An Overview of the Role and Potential of Rural Enterprises to Contribute to the Employment and Income of the Rural Poor." April 1978, Agency for International Development, Washington, D. C. 20523.

File No. 291

Authors discuss how rural enterprises contribute to the overall economy and the mechanisms that have been used to stimulate their development. Small and medium rural enterprises (SMRE) can maximize opportunities for increasing rural employment since generally they are more labor intensive than larger enterprises. SMRE's also contribute to the income and employment of small farm families, and improve income distribution. Mechanisms to support SMRE include training, research and advisory services, credit programs, facilitating procurement of raw materials and equipment, marketing aids, and sub-contracting. The most serious problems faced by SMRE's are distortions in factor prices, burdensome rules and regulations, or taxes and tariffs favoring large firms.

Davcovich, W. and M. Mouelhi, "Farm and Off-farm Incomes of Farm Families, 1973," Economics Branch Publication No. 76/6, June 1976, Agriculture Canada Part II, Ottawa, Canada.

File No. 40

Report analyses income data for Canadian farm families in 1973 based on the Consumer Finance Survey.

Money incomes of farm families were generally below and more unequally distributed than urban families. Sixty-nine percent of total incomes of farm families was earned from off-farm sources. Wages and salaries were the most important component. Income levels for farm and nonfarm families were strongly correlated with education of family heads. Incomes of farm families peaked at age 40 to 44 of family head. After age 65 farm family incomes were higher because farmers continued to operate their farms beyond the usual retirement age.

Da Vanzo, J., "The Determinants of Family Formation in Chile, 1960: An Econometric Study of Female Labor Force Participation, Marriage and Fertility Decisions." Contract No. R-830-AID. August 1972, Rand Corporation, Santa Monica, California 90406.

File No. 170

Author examines the differential income and substitution effects of wages received by men and women with regard to marriage patterns, fertility, and women's labor force participation rates. These effects are estimated for seven five-year age groups of women from cross-sectional data of the 1960 Census of Chile.

Findings showed that women are more likely to marry legally and less likely to terminate their marriages when women's wages are low and men's are high. Attractive economic opportunities for women have a greater inhibiting effect of legal marriage than on consensual marriage. Since the wife is usually in charge of child care, the negative substitution effect of her wage outweighed the positive income effect. The opposite was true for the husband. Parents desire a certain number of surviving children and are influenced by economic factors in deciding on this "target". Parents compensate for actual or expected deaths among offspring in family planning.

Da Vanzo, J., D. N. Detray and D. H. Greenberg, "Estimating Labor Supply Response: A Sensitivity Analysis." December 1973, Rand Corporation, Santa Monica, California 90406.

File No. 163.

Authors explore the sensitivity of labor supply parameter estimates to alternative ways of estimating wage and income effects and to changes in sample composition.

The analysis mainly confirms earlier labor supply studies. In particular a negative bias is introduced into the wage coefficient when the dependent variable (or some part thereof) is used as a divisor to calculate the wage measure. There is some weak evidence of curvilinearity in the relationship between labor supply and wages, but only at very high and very low wage rates. The observed net worth and the amount of time individuals work are positively not negatively, related (the size and significance of this relationship varies among the different components of net worth).

Davies, O., et al., "A Preliminary Analysis of the Small-Scale, Non-Farm Sector in Jamaica." May 1979, Small-Scale Enterprise Survey Unit, Institute of Social and Economic Research, University of West Indies, Kingston, Jamaica.

File No. 323

Paper represents first report on small-scale nonfarm establishment survey of Jamaica Small Enterprise Development Corp. It examines history of industrial development and issues related to number of establishments, levels of employment by sub-sector and location, structure of the work force, usage of powered machine, and level of record keeping.

Jamaica has roughly 38,000 establishments employing approximately 79,000 workers with an average of 2.1 workers per establishment. The non-manufacturing sector accounts for 63 percent of all workers and the same percentage of establishments. Distribution sub-sector accounts for almost 50 percent of the establishments and 42.2 percent of total labor force in the small-scale sector.

Dhamija, J. , "Role of Institutional Support in the Rural Non-Farm Sector. 1976, unpublished paper, Employment and Rural Development Division, Department of Development Economics, World Bank, 1818 H Street, N. W. , Washington, D. C. 20433.

File No. 69

Report examines the kinds of support needed by rural non-farm activities and the institutional framework for providing it. Introductory chapter provides a discussion of rural non-farm employment and the circumstances and problems facing people who work in such activities.

The second chapter examines policy instruments and the following chapter discusses multi-department, multi-level support for effective development programs to assist rural non-farm activities.

Diamond, H. , "Export Potential of Selected Korean Small-Scale Industries," January 1976, Georgia Institute of Technology, Engineering Experiment Station, Atlanta, Georgia 30332.

File No. 234

Report presents an overview of Korean export status and explores foreign trade potential for selected small-scale industries in the Seoul and Taejon areas.

Statistics show a rapid expansion in the volume of manufactured products being exported by small-scale industries in Korea. The economic advantages of shipping to foreign markets appears closely related to government incentives extended to industries which have raised profit ratios substantially.

Dunlop, David W. , "An Analysis of the Rural, Nonfarm Economy (Small-Scale Industry, Trading and Service Activities): Implications for Future Research." African Rural Employment Paper No. 4, December 1971, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 267

Paper reviews literature on the nature and characteristics of the indigenous economy in rural Africa. Emphasis is on literature highlighting the linkages between (1) farm production and nonfarm economic activities and (2) urban, large-scale production and the rural economy. Paper also reviews rural consumption studies. Various government programs which have been implemented are evaluated. Evaluation determines whether or not government action is required in the promotion and development of the small-scale, nonfarm sector.

Eicher, Carl, et al., "Employment Generation in African Agriculture," Research Report No. 9, July 1970, Institute of International Agriculture, College of Agriculture and Natural Resources, Michigan State University, E. Lansing, Michigan 48824.

File No. 105

Author discusses more common causes of unemployment in African economies related to labor supply and to demand. The agricultural sector rather than urban areas is the key to expanding employment opportunities. Present agricultural policies are outlined and needed modifications are given. A major finding is that poor and inconsistent government policies are major barriers to employment expansion. Specific measures are suggested for external donors in helping African nations generate employment in agriculture.

Employment Generation through Stimulation of Small Industries. First Annual Report 211(d) Grant Year, February 23, 1973 - February 24, 1974, Georgia Institute of Technology, Atlanta, Georgia 30332.

File No. 225

Paper is the first annual report of an AID grant to the Georgia Institute of Technology. Grant is to strengthen the capabilities of the Institute to apply its present interests, skills and experience in developing small-scale industries in Georgia and Latin America to small industry problems in the less developed countries. Report includes objectives and accomplishments of the year plus plan of work and anticipated expenditures.

Evenson, R. E., "On the New Household Economics," in Journal of Agricultural Economics and Development Vol. 6, No. 1, 1976, p87-107.

File No. 134

Author examines factors of the new household economics in relation to the standard Hicksian model of utility maximization and the relevance of the necessary assumptions to low income economies. Author argues that rural families do have a utility function, manifest maximizing behavior, and are able to perceive non-market resource value. Households in low-income countries may not understand tradeoffs and constraints of household production.

Author demonstrates applicability of the "New Household Economics" by analyzing data gathered in India to analyze fertility, schooling, and the economic contribution of children within the household.

Evenson, R. E. , "Time Allocation in Rural Philippine Households. " 1977, unpublished paper, Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, Connecticut 06520.

File No. 179

Author develops a model of time allocation for single and two-person households. The two-person model is tested with data from Laguna, Philippines. Results reject the hypothesis that non-wage income has a negative impact on supply of labor. Farmers possibly use non-farm income sources to improve farm and home productivity. An increase in the wife's wage causes an increase in her market time, with a decrease in home and farm time. Similar results were found for husbands. Effects of home and farm capital, and the replacement wage effects of farm work were of the expected sign, but not generally significant.

Fleisher, B. M. and G. F. Rhodes, Jr. , "Fertility, Womens' Wage Rates, and Labor Supply," in The American Economic Review Vol. 69, No. 1, March 1979, p. 14-24.

File No. 316

Study analyzes how mother's labor market opportunity is influenced by bearing and rearing children, how the wife's market wage rate and family income affect number and quality of children desired, and how the family's demand for children and the wife's labor market opportunities determine the wife's lifetime labor supply. National Longitudinal Survey data were used.

Results show that a dollar increase in husband's hourly wage is associated with a 5.2 percent increase in wife's average lifetime market earning power. An additional year of schooling increases the wife's average lifetime wage by 4.2 percent. Child care reduces intensity of training. The number of children demanded responds negatively to their cost and positively to family income.

Freedman, D. and Eva Mueller, "Standard Package of Economic and Demographic Questions." December 1976, unpublished paper, Population Studies Center, University of Michigan, Ann Arbor, Michigan 48106.

File No. 89

Report presents a number of small question sub-modules collectively called the Standard Package as a starting point for researchers planning an extensive field survey. The Package includes: (a) a household roster listing household members, their familial relationships, education, and some basic demographic characteristics, (b) occupation and employment, (c) fertility and child mortality, (d) migration, and (e) household income and assets.

Fuller, A. M., J. A. Mage and H. A. Fuller, A Directory of Part-Time Farming Studies, Volume 1: North America and Western Europe. June 1977, Department of Geography, University of Guelph, Ontario, Canada, N1G 2W1.

File No. 212

Directory is a comprehensive reference on part-time farming. It consists of published bibliographies, alphabetical listing of names and addresses of contributors, annotated bibliography of part-time farming studies since 1965, bibliography of other part-time farming studies since 1965, detailed description of research in progress, and index to studies included in the Directory.

Fuller, V. and B. Mason, "Farm Labor," in The Annals of the American Academy of Political and Social Sciences, Vol. 429, January 1977, p. 63-80.

File No. 115

Authors describe farm labor in the United States. Massive off-farm exodus is approaching its termination. During the period 1970-74 rate of farm population decline fell to an average of 1.2 percent per year. Throughout the 1960's the decline averaged five percent per year. Authors suggest most multiple job holders are supplementing their income by working on the farm rather than other way around. Study also examines market for hired farm labor. The farm labor market is dominantly a ready-access casual market for the salvage of low opportunity cost time.

Fuller, A. M. and J. A. Mage, Part-Time Farming: Problem or Resource in Rural Development. 1976, Geo Abstracts, Ltd., Norwich, England.

Book reports on symposium on part-time farming held at University of Guelph. The question of whether part-time farming is a problem or a resource was not resolved. Classification based on an objective assessment of characteristics and motives was the major outcome of opening sessions.

There was general consensus that part-time farming was an inherent part of most rural systems, and did not require special policies to protect or promote it.

Gayer, D., "The Effects of Wages, Unearned Income and Taxes on the Supply of Labor," in International Economic Review Vol. 18, No. 1, February 1977, p. 101-116.

File No. 117

Study examines the effects of changes in taxes, wages and earned income on work effort using an income-leisure model. Author used data from the Israeli Survey of Manpower for 1971.

Workers were found to be sensitive to changes in their after-tax wage rates and unearned income. Principal finding was that hours worked by heads of household were inversely correlated with wages, indicating that the income effect is stronger than the substitution effect. The number of hours worked by head of household is positively correlated with hours worked by the spouse. Size of family was positively related to number of hours worked as was age. Those who received welfare payments decreased their labor supply by ten hours a year.

Goldfarb, R.S. and A.M.J. Yezer, "A Model of Teenage Time Allocation," November 1978, Department of Economics, George Washington University, Washington, D.C. 20006.

File No. 327

Paper develops a labor supply function for teenagers containing variables for local wage rate paid to teenage workers, amount of non-labor income received by teenagers or their families, family characteristics, and time spent in school. Data are from the Census Public Use Sample. Results indicate that teenagers have a positively sloped uncompensated labor supply curve in the relevant wage range, but is backward bending above the relevant range of wages. There is interaction between demographic and economic variables. Variation in constraints imposed on teenagers across family types altered the teenage labor supply relationship.

Gramm, Wendy Lee, "Household Utility Maximization and the Working Wife," in American Economic Review Vol. 65, 1975, p. 90-100.

File No. 203

Author presents a labor supply equation to test if the presence of young children in the household determine woman's labor force behavior. Disaggregated data on over 400 households are used in study.

Results indicate the first child appears to be important in explaining labor supply. The second child has less effect. The mother of two or three children returns to work more quickly than a mother of one child. Such mothers may respond to increased need for income by returning to work earlier. The own-wage-elasticity of supply was estimated at 0.61 for families of no children, 1.47 for one-child families, 1.03 for two-child families and 0.73 for three-child families.

Greenberg, D. H., Problems of Model Specification and Measurement: The Labor Supply Function, December 1972, Rand Corporation, Santa Monica, California 90406.

File No. 168

Report examines problems with estimating labor supply functions. Report discusses the measurement of labor supply (actual hours worked vs. offered hours), treatment of nonparticipants in the laborforce, and whether hours per week and weeks per year should be multiplied into a single product or treated as separate dependent variables. Other issues include appropriate measures and components of nonemployed income and the construction of wage rates and imputed wages.

Gronau, R., "The Allocation of Time of Israeli Women," in Journal of Political Economy Vol. 84, No. 4, Part 2, August 1976, p. 201-220.

File No. 120

Author examines factors affecting both market and home work time of married women.

A logistic function is fitted to data taken from the 1968-69 Family Expenditure Survey in Israel. The findings suggest an increase in family income has negative effect on participation, while an increase in the weekly wage has a positive effect; children below school age have a negative effect on participation, while children of 13 to 17 years have a positive effect. The marginal effect of children does not differ between women of different education groups. Women of Asian and African origin tended to participate less than European, American or Israeli born women.

A time-budget survey was used to analyze home time. Men spend more time in market work than women. Married men work more than unmarried ones, but reverse is true for women. Women spend more time in working at home than do men, and married women more than unmarried ones. The more education a woman attains, the more she works in the market and the less at home. The reduction at home exceeds the increase in market time so there is an increase in leisure time.

Gronau, Reuben, "Leisure, Home Production and Work--The Theory of the Allocation of Time Revisited," in Journal of Political Economy Vol. 85, No. 6, December 1977, p. 1099-1123.

File No. 257

Paper formalizes the trichotomy of work in the market, work at home, and leisure. Time at home produces home goods that are perfect substitutes for market goods. An increase in the market wage rate is expected to reduce work at home, while its effect on leisure and work in the market is indeterminate. An increase in income increases leisure, reduces work in the market, and leaves work at home unchanged. Conclusions are supported by analysis of the Michigan Income Dynamics data and previous time budget studies.

Haggblade, S. and J. deFay, "Small Enterprises in Haiti: Survey Results," Paper presented at International Conference on Rural Off-Farm Employment held at Kellogg Center, May 30-June 1, 1979, Michigan State University, E. Lansing, Michigan 48824.

File No. 319

Paper summarizes survey to determine the magnitude, composition, and basic characteristics of small-scale enterprises in Haiti, and to make a preliminary identification of major constraints.

In localities of over 1,000 population, there are around 8,500 small enterprises which employ roughly 33,000 workers. Tailors provide 45 percent of small-scale enterprise employment and carpenters account for 11 percent. These businesses employ four workers each on average. Eighteen percent of the labor force is women.

Demand is a critical constraint. Other problems include shortages of raw materials, working capital and credit.

Hansen, Bent, "Employment and Wages in Rural Egypt," in American Economic Review Vol. 59, No. 3, June 1969, p. 298-313.

File No. 207

Research reports results of rural employment survey of households from 48 villages studied during March 1964 to February 1965. Information was recorded on all activities lasting more than half an hour excluding household work. Results showed males work an eight-hour day, women a third of a day, and children (6 to 15 years) about one half a day. Percent of time worked off farm by adult males and children decreases with farm size but increases with family size. Off-farm work by women decreases with family size. Farmers hire women and children for farm work, while adult males work on higher paying off-farm jobs. Little surplus labor appears to exist in rural areas.

Hanson, R. J. and R. F. Spitze, "Farm Size Characteristics Affecting Off-Farm Earnings of Illinois Farmers," in Illinois Agricultural Economics Vol. 14, No. 1, January 1974, 26-30. Department of Agricultural Economics, University of Illinois at Urbana-Champaign, Illinois 61801.

File No. 217

Paper examines off-farm income of Illinois farm families. Data were from a random sample of 4,000 farmers.

Results indicate that an increasingly large proportion of farmers combine farming with off-farm employment. Wage and salary earnings accounted for 35 percent of total income.

As farm size, gross farm sales, net farm income, farm assets, and numbers of cattle and hogs increased, off-farm earnings declined. Some commercial farmers find higher returns through dual employment than with intensifying farming.

Hanson, R. J. and R. G. F. Spitze, "Increasing Incomes of Farm Families Through Dual Employment," in Agricultural Finance Review Vol. 35, October 1974, p. 59-64.

OSU Libraries

Study depicts characteristics of farm families with off-farm employment in Illinois. Results show the off-farm occupations and related salaries of husbands and wives. Effects of proximity to metropolitan areas is discussed.

Harper, Malcolm, Consultancy for Small Businesses: The Concept, Training The Consultants. 1976, Intermediate Technology Publications Ltd., 9 King Street, London, WC2E 8HN, United Kingdom.

File No. 260

Manual summarizes five years of experiments to provide on-the-spot consultancy to small businesses in developing countries. Experiments were conducted in Kenya, Brazil, Sri Lanka and Indonesia. Results and techniques developed are not universally applicable since business in every country is different. Emphasis is on adaptation and selection of whatever appears useful in a given situation.

Part I describes process of assessing training needs of small businessmen to evaluating success of a consultancy service. Part II presents lectures, discussions, exercises and field assignments for consultant's training.

Hart, Gillian, "Patterns of Household Labor Allocation in a Javanese Village," August 1976, Paper prepared for the A/D/C-RTN Workshop in Household Studies, Singapore.

File No. 196

Paper presents tabulations of labor allocation data from 87 households in a Javanese village. Sample is stratified according to land-ownership.

Landless households spent 50 percent more time in income earning activities than households owning at least 0.5 hectare of rice land. Time spent by middle class households is variable among months. In peak months, total number of working hours is larger than that of landless group due to better access to jobs. Time spent during slack months, however, was inversely related to class status as landless households are more willing to accept relatively low wages. Landless group is in a precarious welfare position.

Hart, G. and D. Sisler, "Aspects of Rural Labor Market Operation: A Javanese Case Study," August 6-9, 1978. Paper presented at AAEA Annual Meeting at Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.

File No. 263

Paper concerns extent to which households will likely benefit from an increase in labor demand and wage rates.

Authors argue that men and women of land-holding class have greater access to jobs and are highly responsive to increases in wage rates. The employment of these households tends to be short-term with relatively higher wages. The landed have preferential access to the labor market through a system of invitations. Landless are less able to engage in more remunerative activities due to need to ensure a constant flow of income. Thus they work more days off the farm at a lower wage and demonstrate less elasticity to a change in wage rate.

Hayami, Y., P. F. Moya and L. M. Bambo, "Labor Utilization in a Rice Village in Southern Luzon," May 27-28, 1977, unpublished paper. Prepared for the Symposium on Household Economics, The Regent of Manila, Philippines.

File No. 80

Study examines time components utilized by small farmers, large farmers and landless rural workers in a rice village in Southern Luzon, Philippines. Severe under-employment occurred within the region. The average household provided only 342 man-days of family labor. Both husband and wife worked approximately 170 man-days representing at most a labor utilization rate of 70 percent. Families were fully employed only during peak seasons of planting and harvesting. Seventy percent of work time for both small and large farmers was spent self employed on one's own farm. Some 80 percent of landless work time was spent as hired labor.

Heckman, J. J. , "The Common Structure of Statistical Models of Truncation, Sample Selection, and Limited Dependent Variables and a Simple Estimator for Such Models," in Annals of Economic and Social Measurement Vol. 5, No. 4, 1976,p.475-492.

File No. 138

Paper presents a unified summary of statistical models for sample selection, truncation and limited dependent variables. The bias that arises from using least squares when such models apply is characterized as a simple specification error or omitted variable problem. A computationally simple estimator applicable to such models is proposed that amounts to estimating the omitted variable and using least squares including the omitted variable as a regressor.

Heckman, J. J. , "Shadow Prices, Market Wages and Labor Supply Revisited: Some Computational and Conceptual Simplifications and Revised Estimates," June 1975, unpublished working paper, University of Chicago, 5801 Ellis Avenue, Chicago, Illinois 60637.

File No. 139

Author presents revised estimates of labor force participation, hours of work, and shadow price functions for married women. The author reviews the methodology used in previous paper (1974) and proposes a new method of estimation using consistent and asymptotically efficient estimators. The revised estimates are also presented.

Heckman, J. J. , "Sample Selection Bias as a Specification Error (With an Application to the Estimation of Labor Supply Functions)," Working paper no. 172, March 1977, Center for Economic Analysis of Human Behavior and Social Institutions, National Bureau of Economic Research, Inc., 204 Junipero Serra Blvd., Stanford, California 94305.

File No. 141

Author examines bias that results from using nonrandomly selected samples to estimate behavioral relationships. Bias arises because of problem of missing data on dependent variable of analysis. Regression coefficients will confound meaningful structural parameters. The parameters of the function determine the probability that an observation appears in nonrandom sample. Model is applied to the estimation of labor supply functions.

Herbst, J. H. and R. J. Hanson, "Non-Farm Work as a Substitute for Farm Enterprises," in American Society of Farm Managers and Rural Appraisers, Vol. 35, No. 1, April 1971, p. 63-68.

OSU Libraries

Article demonstrates importance of non-farm income to farm operators. Non-farm wage and salary income may substitute for livestock and/or increased acreage, or vice versa. Farm wives are largest wage and salary sources (72 percent) of non-farm income and account for 44 percent total non-farm income. Non-farm work is important to all farmers of all ages, income groups, and level of education. List types of off-farm jobs, uses of off-farm income, and suggests management counsel.

Higgins, James, An Analysis of Family Labor Supply in Rural Areas, 1974, Ph. D. Dissertation, Department of Economics, North Carolina State University at Raleigh, North Carolina 27607.

File No. 94

Study estimates labor supply of families in Eastern North Carolina, a major tobacco producing region facing increased mechanization.

Results indicate wife's labor supply responded positively to changes in her wage rate and negatively to changes in her husband's wage rate; husband's labor supply responded negatively to a change in his own wage rate, and did not respond to a change in his wife's wage rate. There was a negative, though insignificant, response to a change in family's non-labor income. Labor response is highly inelastic. A 10 percent increase in both husband and wife's wages decreases family labor supply from 0.05 percent to 0.56 percent implying a backward bending supply curve.

Hill, R. C. , J. C. Hunt and B. F. Kiker, "Household Division of Labor: An Analysis of S. Carolina Families," Economics Department, University of Georgia, Athens, Georgia 30603.

File No. 315

Study analyzes demand equations for time of wife and husband in leisure, home production and market-related uses of time. Data were obtained for a mail questionnaire administered to the South Carolina Consumer Panel in 1978.

Although women (men) contribute the vast majority of time to nonmarket (market) tasks. household are responsive to changes in productivity of own time and input prices. Households where wives have high opportunity costs exhibit less dichotomization of tasks by sex. Children have an opposite effect on division of labor because wives traditionally specialize in their production. Availability of capital goods enables families to reallocate labor to more important tasks such as market work and child care.

Hill, C. R. and R. P. Stafford, "Parental Care of Children: Time Diary Estimates of Quantity Predictability and Variety," November 1978, Department of Economics, University of South Carolina, Columbia, South Carolina 29208.

File No. 328

Paper examines time parents devote to children particularly in pre-school years. Data obtained from Time Use Survey of US Households conducted by University of Michigan in 1975-76. Sample includes married women and men aged 18 to 50.

Findings show average weekly per child care increased with education of mother. Educated parents interact more with their children throughout their youth than do less educated parents. This consistency and variety of interaction may create differences in child development.

Ho, Samuel P. S. , "Decentralized Industrialization and Rural Development: Evidence from Taiwan," University of British Columbia, Vancouver, Canada.

File No. 314

Evidence from Taiwan shows that rural nonfarm activities depend on spatial pattern of industrialization. The dramatic rise of nonfarm income is due to decentralized industrialization which created rural employment opportunities.

From 1956-66, manufacturing employment increased 7.2 percent yearly in rural Taiwan. Rural labor force employed in agriculture declined from 73 to 54 percent, while employment in manufacturing increased from 7 to 10 percent. The transformation in economic structure resulted from growing importance and size of urban areas and large shift in rural employment towards nonfarm activities.

Factors favoring decentralized industrialization include a highly commercialized and productive agricultural sector, diversified agro-industry, and the early development of infrastructure and human capital.

Ho, Samuel P. S. , "The Development of the Rural Nonfarm Sector in the Republic of Korea," September 1977, Prepared for the Country Programs Department, East Asia and Pacific Regional Office, IBRD.

File No. 313

The proportion of off-farm income in total farm household income has remained relatively stable at 23 percent. Off-farm income has not increased because of slower rate of industrial growth in the countryside.

Underdeveloped rural industries are related to regional concentration of industrialization due to (a) a lack of rural infrastructure to support more spatially diffused industrialization; and (b) economic policies that intensively promoted exports.

Rural policies include increased investment in agriculture and rural infrastructure and price supports, etc. , but little attention has been given to small rural workshops, and commercial and service establishments. Main difficulties facing small rural producers are credit, marketing, and design and technology.

Ho, Samuel P. S. , "The Rural Non-Farm Sector in Taiwan," Studies in Employment and Rural Development No. 32, September 1976, Employment and Rural Development Division, Department of Development Economics, International Bank for Reconstruction and Development, Washington, D. C.

File No. 247

Spatial distribution of Taiwan's employment is reviewed with an examination of demand for rural non-farm labor. Findings suggest that (1) rapid industrialization and/or diffused industrialization can occur simultaneously, (2) the strength of Taiwan's economic development may be the consequence of diffused industrialization; (3) studies show a strong demand by farm households for non-agricultural goods and services and demand grows with rises in agricultural output and income; and (4) the rural non-farm sector is an important source of employment and income for farm households.

Ho, Yhi-Min, "The Production Structure of the Manufacturing Sector and Its Distribution Implications: The Case of Taiwan," Paper No. 78, Winter 1976, Program of Development Studies, Rice University, Houston, Texas 77001.

File No. 90

Using Taiwan's 1971 Census of Manufacturing, author analyzes CES production functions for manufacturing industries to test impact on income distribution. Objectives are to test factor combinations of different size firms and evaluate the efficiency of factor utilization. Findings suggest that the firm size is not consistently related to efficiency, but variations in factor intensity are significant between firms of different sizes.

Ho, Y. M. , "Development with Surplus Population--The Case of Taiwan: A Critique of the Classical Two-Sector Model, a la Lewis," in Economic Development and Cultural Change Vol. 20, No. 2, January 1972, p. 210-234.

File No. 174

Author assesses the growth experience of Taiwan during the 1951-65 period in a two-sector framework.

Taiwan's experience contradicts the growth profile on several counts involving labor transfer process, movement of real wages, and changes in trade. The labor transfer process does not seem to be an important dimension of growth. The movement of labor appeared to be a process of relocating surplus labor from one sector to another. This trend is explained by labor-absorbing technology employed in agriculture, while modern industries favored capital-intensive techniques.

Ho, Yhi-Min, "Factor Content of Consumption by Income Size: Some Further Evidence," Paper No. 90, 1978, Program of Development Studies, Rice University, Houston, Texas 77001.

File No. 326

Paper extends previous research to test factor content of consumption by income in Taiwan.

Findings reaffirm that factor content of consumption by the poor is more capital intensive than by the rich. The overall capital content of consumption is sensitive to the degree of aggregation of farm products. Consumption of urban households is more capital intensive than rural households. The factor intensity of consumption is determined by the relative shift in food consumption and demand for services.

Ho, Y. H. and D. L. Huddle, "Small-Scale and Traditional Industries: A Development Alternative," in Rice University Studies Vol. 61, No. 4, Fall 1975, p. 113-125.

File No. 159

Authors criticize the two-sector growth model of Lewis and Fei-Ranis. Present an alternative model with a small-scale sector including type firms producing non-traditional, manufactured products and type two firms specializing in hand-made goods. More emphasis on these firms would improve employment creation, balance geographic distribution of employment and income, and expand trade. Empirical evidence based on Taiwan, Hong Kong, Colombia, Brazil and Mexico showed that import demand for hand-made goods has high income elasticity, high growth rate and these goods have high labor content.

Ho, Y. M. and D. L. Huddle, "The Contribution of Traditional and Small Scale Culture Goods in International Trade and in Employment," Paper No. 35, Fall 1972, Program of Development Studies, Rice University, Houston, Texas 77001.

File No. 184

Using cross section data for OECD countries and time series data for the U. S. , the authors analyze international trade of 81 culturally oriented goods produceable by small-scale traditional industries. These products performed as well as or better than all internationally traded goods. Between 1964-70 both broad groups had high income elasticities of demand. The growth rates of U. S. imports of these products were on the average 8.3 percent per annum between 1965 and 1976.

Authors infer that traditional-goods producing industries are a viable means to growth, as shown in Korea, Japan and Taiwan.

Ho, Yhi-Min and Donald L. Huddle, "Traditional and Small-Scale Culture Goods in International Trade and Employment," in Journal of Development Studies Vol. 12, No. 2, January 1976, p. 232-251.

File No. 296

Paper analyses 81 commodities representing a disaggregated sample of traditional artisan and small-scale products produced by LDC's. Author argues that such products might play an increasing role in international trade. Import demand and population elasticities for major commodity groups are derived both from time-series for U. S. and a cross section for the 15 OECD countries.

Some findings are: (1) these products have increasingly participated in international trade; (2) most commodities had income elasticities greater than unity with weighted total over two; (3) labor intensity of these commodities is high, (4) high income elasticity tends to be correlated with high labor content; and (5) foreign exchange created by these exports has been rising.

Hossain, Monowar, et al., "Rural Industries Study Report: Phase I Report," May 1979, Bangladesh Institute of Development Studies, Adamjee Court, Motijheel C. A., Dacca-2, Bangladesh.

File No. 320

Report covers general issues, observations, and tentative recommendations concerning small-scale and cottage industries in Bangladesh.

Textiles, food processing, manufacturing, and wood products dominate the industrial activities in the survey areas. Industries are concentrated because of availability of raw materials, caste and cultural traditions, and historical concentration of skills.

Average number of workers per enterprise is 3.8 including proprietor. Findings reveal significant sex, location, and industry-wise variation of employment. Small-scale and cottage industries may hold an important key towards alleviating unemployment problems.

Huang, Y., "Backward-Bending Supply Curves and Behavior of Subsistence Farmers," in Journal of Development Studies Vol. 12, No. 3, April 1976, p. 191-211.

File No. 194

Author formulates a model of peasant economy to test if subsistence farmers are responsive to economic opportunities and behave according to the notion of a backward-bending supply curve.

Data come from three paddy areas in Malaysia. Results indicate that in a subsistence economy farmers' incomes gravitate toward minimum subsistence. As such, they confirm the hypothesis of a backward-bending supply curve. In more progressive areas the availability of consumer goods and demonstration effect have probably raised aspirations. These areas indicate forward-leaning supply curves.

Huddle, D. L., "An Analysis of the Savings Behavior of a Group of Colombian Artisan Entrepreneurs," Paper No. 81, Fall 1977, Program of Development Studies, Rice University, Houston, Texas 77001.

File No. 149

Study analyzes savings behavior of self-employed artisans and craftsmen in Colombia. It was hypothesized that ownership of factors of production would result in higher marginal savings rates vis-a-vis other low income groups.

The empirical data was gathered in 1975-76 at urban fairs. Results indicate that artisan-craftsmen exhibit substantially higher saving behavior than other groups. Major saving occurred in educational services and investment in simple equipment and inventories. A policy implication is that the Colombian government should loosen restrictive lending to small scale rural and urban artisan-craftsmen.

Huffman, W. E. , "The Value of the Productive Time of Farm Wives: Iowa, North Carolina, and Oklahoma," in American Journal of Agricultural Economics Vol. 58, No. 5, December 1976,p. 836-841.

File No. 126

Farm wives allocate their time outside of the household to on-farm and off-farm work. Few studies have attempted to value the time wives devote to farm production. An agricultural production function was used to assess value of farm wives' time. Observations were per farm county averages for Iowa, North Carolina, and Oklahoma obtained from the 1964 the Census of Agriculture.

Results show that the factor cost share of wife's labor is largest on crop farms. As the share of livestock output in total output increases, the cost-minimizing ratio of wife to hired labor increases, but the ratios of wife labor to other inputs decline.

Huffman, W. E. , "Interactions Between Farm and Nonfarm Labor Markets," in American Journal of Agricultural Economics Vol. 59, No. 5, December 1977,p. 1054-1061.

File No. 186

Paper concerns interaction of farm and nonfarm labor markets since 1950. The income elasticity of demand for nonfarm products is greater than for farm products. For labor to be fully employed and earn its opportunity return, a new transfer of labor to the nonfarm sector must occur in one of three ways: the farm operator leaves the farm and attains off-farm employment; children leave agriculture and take non-farm jobs while their parents remain in farming; and there may be multiple job holding activities while family remains on farm. Attractiveness of these alternatives depends on the location of nonfarm jobs, skills the family possesses, and costs of commuting or moving to off-farm jobs.

Hymer S. and S. Resnick, "A Model of an Agrarian Economy with Non-agricultural Activities," in The American Economic Review Vol. 59, No. 4, 1969, p. 493-501.

File No. 195

Paper presents a model of an agrarian economy including non-agricultural non-leisure activities.

Authors argue that a major effect of development is not the replacement of idleness by work, but the shift from inferior methods of home production to superior methods based on specialization and exchange. Authors stress the varieties of activities and methods of production possible. Models which ignore complex agrarian life may underestimate the possibilities of reallocating work effort and adjusting consumption in response to increased trade opportunities.

International Labor Organization, "Programms on Rural Industrialization, Rural Non-Farm Technology and Employment," June 1978, World Employment Program, ILO Office, Geneva, Switzerland.

File No. 305

Study discusses scope for generating employment and income through rural industries and nonfarm activities. Between 20 to 30 percent of the rural labor force in developing countries depend on nonfarm activities. Income opportunities offered by these activities have not arrested rural out-migration.

Formulation of rural industrialization strategy requires analysis of: (a) demand for rural nonfarm goods and services; (b) changes in demand and supply due to changes in tastes and technology; (c) enterprise constraints like access to markets, infrastructure, etc., and (d) policy environment for promotion of rural industries.

International Labor Organization, "Bibliography of Published Research of the World Employment Programme," 1978, ILO Office, Geneva, Switzerland.

File No. 306

This bibliography updates the list of all World Employment Programme (WEP) research publications as of May 31, 1978.

Jamos, B. E., Jr., "Interim Observations UP-ISSI Entrepreneurship Development Program," February 1976, Engineering Experiment Station, Georgia Institute of Technology, Atlanta, Georgia 30332.

Author reports observations on the University of the Philippines Institute for Small-Scale Industries' Entrepreneurship Development Program (EDP). Program sought to develop entrepreneurial activities in rural areas. Attention was paid to post-graduation response. Most participants felt the EDP had been beneficial, particularly in goal setting. Analysis showed a 15.4 percent increase in the number of entrepreneurs, mostly in the agro-industrial and manufacturing sectors. A prime motive for attending was the expectation of receiving loans. Recommended increased management training and efforts to relax business loan requirements.

Jasleen, Dhamija, "Non-Farm Activities in Rural Areas and Towns: The Lessons and Experiences of Iran," Studies in Employment and Rural Development No. 31, July 1976, International Bank for Reconstruction and Development, Department of Development Economics, Washington, D. C.

File No. 68

The rural non-farm sector was largely left out of Iranian agricultural development efforts. Rural manufacturers faced increased competition so employment fell. Neglect of the small town also led to stagnation of the rural non-farm sector. Large-scale migration from rural areas increased governmental awareness of their needs. Government involvement in the non-farm sector included setting up departments to provide employment and education opportunities in the rural areas and services to improve the quality of rural life.

Chapter II provides background material and historical perspective. Chapter III summarizes the question of employment and incomes in rural non-farm activities, including processing, manufacturing, infrastructure, building and services and trade. Final chapter evaluates various government programs.

Jessee, David L. and Russel H. Brannon, "Rural Sector Unemployment and Underemployment--A Bibliography," Occasional Paper No. 6, June 1977, Economics and Sector Planning Division, Agency for International Development, Washington, D. C. 20523.

File No. 248

Bibliography emphasizes materials providing economic analyses and interpretations. Four major areas are treated: (1) the nature and scope of employment and income problems; (2) technological impacts upon employment and income; (3) agrarian sector policies designed to increase employment and income; and (4) more general discussions of the roles of the rural sector.

Jodha, N. S. , "Considerations in Measurement of Rural Household Incomes," July 1976, Economics Department, ICRISAT, Hyderabad-500 016, India.

File No. 253

Author argues that production and market processes must be properly understood for the meaningful measurement and valuation of household income, expenditures and wealth. Paper concentrates on measurement questions of "dual" or "peasant" agriculture.

First section deals with the valuation problem of household income and second discusses data collection problems. Author suggests classifying items considered into different categories based on degree of imputation required, and mentions ways to select relevant imputation prices. Several types of data collection problems and procedures are discussed.

Kaatz, J. R. , "Finance and Small-Scale Industry Lending in the Philippines, 1967-1973," 1975, Engineering Experiment Station, Georgia Institute of Technology, Atlanta, Georgia 30332.

File No. 233

Small-scale manufacturing industries in the Philippines in recent years have shown a declining relative efficiency in terms of value added per worker.

Artificially low institutional lending rates have contributed to overly capital-intensive productive processes. Allowing interest rates to rise to free market levels is not likely to appreciably change resource allocations.

An indiscriminate program of assistance to small industries would adversely affect existing cost/benefit ratios for small-scale industry development. Rather a complete assistance package including organizational, technical, and financial concerns will better serve small industries.

Kaatz, John R. , Employment Generation Through Stimulation of Small Industries, Financing Small-Scale Industry: The Tobarao, Brazil Case. January 1976, Georgia Institute of Technology, Atlanta, Georgia 30332.

File No. 274

Study analyzes financing arrangements available to small entrepreneurs to Tobarao, Brazil. The three principal problems of small business financing were: (1) lack of accounting data; (2) default frequency; and (3) difficulty in appraising loan applications. It would be desirable to extend the present technical assistance to include financial planning and control and need firm and continuing governmental commitment to small business.

Kada, Ryohei, "Off-Farm Employment and Farm Adjustments: Microeconomic Study of the Part-Time Farm Family in the United States and Japan," 1978, unpublished Ph. D. Dissertation, Department of Agricultural Economics, University of Wisconsin, Madison, Wisconsin 53706.

File No. 283

Study compares on-farm and off-farm employment and income of part-time farm families in Wisconsin and Shiga Prefecture, Japan.

Off-farm employment has become increasingly important for the farm population of the two countries, and off-farm income has raised the well-being of those remaining on the farms. Study notes that in Japan, farm families use off-farm employment and give a minimum required labor input on the farm. In contrast, part-time farm families in the U.S. make thorough adjustments in farm management and organization, given a minimum amount of off-farm labor input.

Kasper, Hirschel, "Assets and the Supply of Labor," in Southern Economic Journal Vol. 33, No. 2, October 1966, p. 245-251.

File No. 13

Full-employment is significantly affected by including real assets in the labor supply analysis. While real assets traditionally are ignored in labor supply function, it is necessary for a deeper understanding of labor supply. Concludes full-employment becomes a locus of points varying somewhat with level of prices and the amount of workers' assets. Wealth fluctuations are inversely related to labor supply fluctuations.

Kerachsky, S. H., "Labor Supply Decisions of Farm Families," in American Journal of Agricultural Economics Vol. 59, No. 5, December 1977, p. 869-876.

File No. 189

Paper examines importance of off-farm employment and the effects of the Rural Income Maintenance Experiment (RIME) upon the decision to work off the farm.

Over 33 percent of the experiment's Iowa farmers and 58 percent of the North Carolina operators worked off the farm some time during the three years of the experiment. When both husbands and wives are considered, almost 50 percent of Iowa farm families and 78 percent of North Carolina families had either the husband, the wife, or both working off the farm.

Several labor supply equations were estimated. The trend in North Carolina is for farm operators to work more on the farm and less off farm, while for wives the trend is less pronounced. The results in Iowa seem less marked.

King, Robert P. and D. Byerlee, "Income Distribution, Consumption Patterns and Consumption Linkages in Rural Sierra Leone," African Rural Economy Paper No. 16, 1977, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 292

Study describes and analyzes the relationships between income and consumer demand in rural Sierra Leone and analyzes the effect of income distribution in factor intensities and locational linkages of rural consumption patterns. Data were taken from a nationwide rural survey.

Incomes of households averaged only \$128 US per capita and income distribution is rather uniform with an estimated Gini coefficient of 0.32. Half of all rural consumption expenditures are for subsistence consumption. Estimated expenditure elasticities of demand were 0.9 for staple food like rice and 1.8 for meat. Products of small-scale firms have a moderate growth potential through increased demand, although their expenditure elasticities are generally less than for similar goods produced by large-scale firms. Consumption patterns are quite labor-intensive consisting of goods produced in small-scale agricultural, fishing, industrial and service sectors.

Kochao, David and others, "Financing the Development of Small-Scale Industries," Bank Staff Working Paper No. 191. November 1974. International Development Association and Swedish International Development Authority, Washington, D. C.

File No. 275

Report is based on visits to Colombia, Guyana, Iran, Korea, Singapore, Trinidad-Tobago, Tunisia and Zambia.

Authors conclude that small-scale industries face two major handicaps: (1) the policy framework favors larger enterprises, and (2) promotional institutions provide little assistance to small firms. Discrimination against small industries may weaken the industrial structure and impede industrialization.

Shortage of finance is a generally important constraint for small-scale industries. An effective financing program is one that includes all types of loans and basic financial management services.

Kosters, M. , "Income and Substitution Parameters in a Family Labor Supply Model," 1966, unpublished Ph. D. Dissertation, Department of Economics, University of Chicago, 5801 Ellis Avenue, Chicago, Illinois 60637.

File No. 113

Author developed a model to investigate income and substitution effects of wage rate changes on quantity of labor supplied to the market by individual family members. Data from 1960 census were used. A pure income effect can be estimated only from a variable representing non employment income. The quality of the estimate depends on the extent to which this income is perfectly substitutable for earnings income. The husband's wage rate was significant and negative in sign. Non-earnings income was negative in sign and significant.

Krasovec, Stane, "The Future of Part-Time Farming," in Proceedings of the International Conference of Agricultural Economists: 12th Conference, August 24 - September 3, 1965, p. 246-275.

File No. 16

Author indicates that both in developing and highly industrialized nations an important percentage of the population is of mixed agricultural-nonagricultural occupations. Refutes idea part-time farmers are always less productive or mechanized. These farmers are probably better off than marginal full-time farmers who cannot easily increase savings for capital accumulation. Intensity of work in nonagricultural industries varies with different countries. Part-time farming should disappear with sufficient wage rates and agricultural prices.

Kupier, K. and J. W. Murage, "Small Scale Industries (SSI)," Information Paper (SSI/001), March 15, 1978, DFCK, P.O. Box 30483, Nairobi, Kenya.

File No. 281

Authors investigated the current position and potential of small scale industries. A total of 35 industries were surveyed to determine the characteristics and needs of rural industrialists and to design assistance programs. The major needs for assistance were: (1) loan finance; (2) industrial leasing; (3) equity participation; and (4) consulting services for feasibility studies, record keeping, marketing, management, etc.

Larson, Donald K. , "Impact of Off-Farm Income on Farm Family Income Levels," in Agricultural Finance Review Vol. 36, April 1976,p 7-11.

File No. 216

Study examines the income status of farm operators using data from Bureau of the Census, U. S. Dept. of Commerce, and the 1970 Financial Survey of Farm Operators and Landlords. Results indicate that net farm income alone understates total family income. Off-farm income greatly altered 1970 income levels. When classified by net income from farm sources only, 72 percent of the farm families were in the low-income group. However, over half moved to a higher income group when off-farm earnings were included.

Larson, Donald W. and Hung Yu Hu, "Factors Affecting the Supply of Off-Farm Labor Among Small Farmers: The Case of Taiwan," in American Journal of Agricultural Economics Vol. 59, No. 3, August 1977,p. 549-553.

File No. 331

Paper analyzes the role of the small part-time farmer in Taiwan. Data strongly indicate that off-farm employment is important to income improvement since farmers are unable to increase holdings. The ratio of non-farm wages to farm income significantly affects the off-farm labor supply. The elasticity of supply is higher for small farmers than large farmers. Educational level, number of adults in family, and farm mechanization also positively affect the off-farm labor supply while size of farm and farm types are inversely related.

Lee, John E. , Jr. , "Allocating Farm Resources Between Farm and Non-Farm Uses," in American Journal of Agricultural Economics Vol. 47, 1965,p. 83-92.

File No. 202

Author develops a theoretical model explaining the rationality of allocating farm resources to non-farm employment. Emphasis is on farm labor but the same principles apply to other resources. Model defines conditions for maximizing family income, and explains the attractiveness of part-time farming as a permanent or a transitory organization of resources.

Leibowitz, A. , "Women's Allocation of Time to Market and Non-Market Activities," 1972, unpublished Ph. D. Dissertation, Department of Economics, Columbia University, Columbia, Missouri.

File No. 95

Hypothesis of study is that differences in lifetime patterns of labor supply are due to differences in the price of time and in the way educated women allocate their time to child care and other household tasks. Author used data from the 1960 Census and estimated labor supply equations by education class.

Results confirmed previous findings that wage elasticity was near unity. Education's effect on time inputs to household production depends on the relative productivity of time, the substitution elasticity between goods and time, and income elasticity. For general household activities, capital goods and others' time are good substitutes for the wife's time. For child care, the husband's time is a complement of the wife's time. At low schooling levels, other adults' time is a substitute for the wife's time in child care.

Lesnett, Frederick, "An Analysis of Socioeconomic Factors Affecting the Hourly Earnings and the Weekly Labor Supply of Household Heads From the South Central Virginia Counties of Amelia, Brunswick, Cumberland, and Southampton," 1978, unpublished paper, Bureau of Economic Research and Development, Virginia State College, Petersburg, Virginia 23803.

File No. 293

Study determines relationships between economic, sociological and psychological variables and the hourly earnings and the weekly labor supply of 261 male and 71 female household heads for the South Central Virginia counties. Results show that male household heads who were better educated, white and employed in contract construction earned higher hourly earnings. Female household heads employed in private business or government earned higher hourly earnings. Male household heads employed in construction or manufacturing supplied fewer hours per week. Those with negative attitudes toward welfare supplied more hours. Working female household heads were younger, married, divorced or separated, had fewer children to support, and were employed in professional, technical, managerial or administrative occupations.

Liedholm, C. , "Research on Employment in the Rural Nonfarm Sector in Africa," African Rural Employment Paper No. 5, 1973, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 29

Paper summarizes the existing knowledge of the rural nonfarm sector and develops an analytic framework for examining utilization of labor in Africa. Author introduces the Hymer-Resnick model as a framework for focusing on the rural nonfarm sector. This model was found inappropriate for empirical analysis and was modified by relaxing the assumption that output cannot be traded to urban areas and abroad. A further modification considered the effects of backward and forward linkages of agriculture on the rural nonfarm sector.

Paper concludes with a description of surveys required to generate micro-data for detailed analysis of this sector.

Liedholm, Carl and E. Chuta, "The Economics of Rural and Urban Small-Scale Industries in Sierra Leone," African Rural Economy Paper No. 14, 1976, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 55

Report summarizes major findings of research on rural and urban small-scale industries in Sierra Leone.

Authors found that small-scale industries account for 95 percent of the employment and 43 percent of the value added of the industrial sector. Ninety-five percent of the establishment, 86 percent of the employment and 75 percent of the value added is generated by rural small-scale industries. There were vast differences in mean output and value added by various types of industry, and all industries experienced seasonal fluctuations. Total labor input varies widely by industry and location. Labor input was significantly greater in urban locations than in village and rural areas. Apprentices and proprietors supply the greatest share of small-scale industry labor.

Little, (Arthur D.), Inc., "Survey of the Institutional and Financial Requirements of Medium and Small Industry in Mexico," March 1963, U.S. Agency for International Development, Washington, D.C. 20523.

Report analyzes means to assist small- and medium-sized industry in Mexico. Mexico's small and medium industry accounted for more than half the total value of manufacturing, producing 14 percent of gross national product. Significant additions to national output and employment appeared promising given underutilization of plant capacity. Lack of adequate financing, management deficiencies, and lack of promotional incentives were the main causes of underutilization. Improved supplies of medium- and long-term credit are stressed.

Lodge, D. E. and K. E. Auciello, Proceedings of the Conference and Seminar on Techniques and Methodologies for Stimulating Small-Scale Labor-Intensive Industries in Developing Countries, September 1975, Industrial Development Division, Engineering Experiment Station, Georgia Institute of Technology, Atlanta, Georgia 30332.

File No. 235

The Conference was designed to present information on successful programs for stimulation of small-scale industries in developing countries.

The principal goals of the conference were: to identify, analyze and compare existing methodologies designed to stimulate small-scale industry; to disseminate knowledge about operational and linkage efforts in small-scale industry development to participants; to establish links for coordination of future efforts; and to establish adequate "feedback" mechanisms to enhance the design and utilization of the Small Industry Program of AID.

Loomis, Ralph A. , "Earnings from Two Worlds--Farm and Non-Farm," Washington Agricultural Experiment Station Bulletin No. 728, September 1970, Washington State University, Pullman, Washington 99163.

OSU Libraries

Paper documents increasing importance of non-farm income for Pacific Northwest farm families. 1964 Census of Agriculture reports 84 percent farm families have some non-farm earnings with 43 percent of operators working 100 days or more per year off the farm. Even among economic class I farms, six percent worked off the farm 100 days or more. Smaller farmers have greater tendency for nonfarm work.

Mabawonku, Adewale F. , "An Economic Evaluation of Apprenticeship Training in Western Nigerian Small-Scale Industries," African Rural Economy Paper No. 17, 1979, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 309

Study analyzes structure, conduct, and performance of the Nigerian apprenticeship system. 210 tailoring, furniture, auto repair and blacksmithing establishments were surveyed.

Low income and job scarcity for primary school leavers forced youths to seek apprenticeships. Nearly 90 percent proceeded straight from elementary school into apprenticeships. The social costs of training apprentices include direct trainee costs, proprietor's costs and foregone earnings. Comparing apprenticeship fees to allowances received indicated that proprietors subsidized the training.

Author concludes that apprenticeships are the main avenue by which entrepreneurs in small-scale industries are recruited.

Matlon, Peter J., "Aspects of Rural Labor Market Operation: A Javanese Case Study: Discussion," in American Journal of Agricultural Economics, Vol. 60, No. 5, December 1978, pp. 827-829.

File No. 300

Paper criticizes the Hart-Sisler study of delineating labor markets on the basis of household land ownership in Java. Author warns that reliance on land strata as the primary disaggregating factor may be inapplicable in other low income countries. Critical factors in the Java case appear to be (a) the practice of pawning land resulting in the formation of patron-client relationships, (b) reciprocal wage labor exchange by invitation, and (c) poorly developed rural nonfarm employment opportunities.

Matlon, P. J., "Income Distribution Among Farmers in Northern Nigeria: Empirical Results and Policy Implications," African Rural Economy Paper No. 19, 1979, Department of Agricultural Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 308

Study examines distribution and structure of personal income among a sample of farmers in Northern Nigeria.

Results show a high degree of income equality within the study area. The Gini coefficient on income per capita was 0.2823. However, average incomes were so low level that even the richest households would be considered relatively poor. Various factors related to village location accounted for the poverty status of particular subsets of low income households.

Off-farm employment provides important supplemental income to which low income males allocated 34 percent of their total working hours yearly, and 22 percent during peak farming months. Lower income households specialized in unskilled and labor intensive off-farm activities. Off-farm enterprises of higher income households required greater capital and generated significantly higher returns.

Maurer, K., Rosalinda Ratajczak and T. Paul Schultz, Marriage, Fertility and Labor Force Participation of Thai Women: An Econometric Study. Contract No. R-829-AID/RF, April 1973, Rand Corporation, Santa Monica, California 90406.

File No. 169

This report seeks to formulate, test, and integrate the components of a theory of fertility as part of a general view of the family decision-making process. A simultaneous-equations model is specified to account for cross-sectional variation in age-specific marriage patterns, fertility, and women's participation in the nonagricultural labor force. Thailand was chosen because of the substantial role of women in the labor force.

Educational attainment has the most substantial effects on fertility levels. Female schooling increases fertility in the 25-29 age cohort, but strongly depresses it thereafter. Increased education among women may marginally reduce the proportion of women married, but it may not significantly affect the size of the female nonagricultural labor force. The proportion of women who recently migrated into a region appears to increase the proportion married, decrease nonagricultural participation, and increase fertility.

McArthur, Harold J., Jr., "The Role of Off-Farm Employment Among Hawaii's Small Farmers and Its Implications for Agricultural Assistance, University of Hawaii, Honolulu, Hawaii 96844. Paper presented at Society for Applied Anthropology, March 15-17, 1979, Philadelphia, Pennsylvania.

File No. 312

Paper analyses off-farm employment and programs to help small Hawaiian farmers. According to 1974 Census of Agriculture, 75 percent of small farmers derive some income from non-agricultural sources. Sixty percent of farmers reporting non-farm income listed their principal occupation other than farming. More than half of working farmers were employed in service and construction industries. Eighty-six percent of farmers with off-farm work stated that such work provides a necessary supplement to their farm income; 59 percent claimed that without off-farm income, they would be forced out of farming.

Author concludes that the extension programs geared to increasing production through capital-intensive technology are inappropriate for small and part-time farmers.

McNabb, R., "The Labor Force Participation of Married Women," in The Manchester School of Economic and Social Studies, No. 3, September 1977, p. 221-235.

File No. 193

Paper examines the determinants of participation rate of married females in Great Britain. In 1951, 34 percent of all females of working age (15-60) were defined as active. By 1971 this figure had increased to 54 percent. Regional variations were analyzed.

Of the economic variables, the potential wage of the wife was important in explaining regional variations in participation. The impact of children on the labor supply decision was also considered. The presence of dependent children helped explain participation for women between ages of 25 and 34. But a more complicated relationship involving other factors was important.

Meyer, Richard L. , "Financing Rural Nonfarm Enterprises in Low Income Countries," Occasional Paper No. 522, October 1977, Department of Agricultural Economics and Rural Sociology, Ohio State University, Columbus, Ohio 43210.

File No. 294

Several factors are given to explain why supply of financial services to rural nonfarm enterprises may be limited. An important reason may be fragmented rural financial markets. Increased attention is required by policymakers to open these markets to a wider clientele by removing rules, regulations and requirements which fragment markets, and offer incentives for broader service. Other methods to improve rural financial services are also discussed.

Meyer, R. L. and D. W. Larson, "Rural Nonfarm Employment: The Recent East Asian Experience," in Journal of Economic Development Vol. 3, No. 1, July 1978.

File No. 271

Paper discusses importance of off-farm work for farm households and identifies microeconomic factors affecting supply of off-farm work. Analyzes off-farm work in 1973 by Taiwanese farm households. Wage rates, education, family size, farm machinery, and size and types of farm were important in explaining time allocated to off-farm work. Policies and programs to strengthen the small-scale nonfarm sector are discussed.

Michel, H. and W. Ochel, "Rural Industrialization in Developing Countries (In German with English Summary)," IFO, Weltforum Verlag, Munchen, Germany.

File No. 303

Study analyses factors necessary to make rural areas attractive locations for industrial and artisanal producers, the effect on employment and income emitting from rural industries, regions suitable for assistance, and procuring and processing problems faced by rural producers. Study cites proposals for promoting rural industrialization.

Rural industries with greatest employment effect are furniture, clothing, footwear, wood products, textiles, pottery, chinaware, and leather goods. Important indirect employment effects are produced by food, drink and tobacco industries.

Areas suitable for rural industrialization are those which do not lie in the immediate hinterland of large towns, produce cash crops amounting to not less than 30 percent of gross domestic product, and have a population density of more than 10 inhabitants per square kilometer as well as having a central supply of electricity and water.

Miller, James C. , Regional Development: A Review of the State-of-the Art, August 1974, Office of Urban Development, Bureau of Technical Assistance, Agency for International Development, Washington, D. C. 20523.

File No. 289

Review begins with a study of John Friedmann's "Spatial Systems Approach" to regional planning. Study discusses theoretical underpinnings of concept, drawing together and synthesizing elements of economic development theory, central place theory, location theory, and information theory into a model of the spatial diffusion of economic growth. Implications are drawn concerning the deficiencies of spatial organization of developing countries. An overview of regional development planning experiences is presented.

Mincer, Jacob, "Labor Force Participation of Married Women: A Study of Labor Supply," Columbia University and National Bureau of Economic Research, in Aspects of Labor Economics, 1962, 63-105. Princeton University Press, Princeton, New Jersey 08540.

File No. 250.

Study estimates a labor-market supply function of married women using cross-sectional data generated by 1950 BLS Survey of Consumer Expenditures. Quantity of labor supplied to the market is related to income of husbands, wives full-time market wage, and other factors like educational level, unemployment and the presence of small children. Analysis shows that the husbands' income and the wives' wage rate explain half of the observed variation in labor force participation rates. The effect of the husbands' income is negative and the effect of wives' wage rate is positive and stronger than that of the husbands' income. Education attenuates the wage rate effect, while unemployment appears to discourage labor force participation.

Miracle, Marvin P. , and Bruce Felter, "Backward-Sloping Labor Supply Functions and African Economic Behavior," in Economic Development and Cultural Change Vol. 18, January 1970,p.240-251.

File No. 209

Authors present evidence suggesting that if backward-bending supply curve of labor disappeared in recent years in Africa, it does not necessarily imply changes in economic behavior of African wage laborers. Changes in economic conditions, especially regarding taxes, may have changed labor response. Research on these economic conditions may be fruitful in understanding the requirements for rapid economic growth.

Misawa, Takeo, "An Analysis of Part-Time Farming in the Postwar Period," in Ohkawa K., B. Johnston, and H. Kaneda (eds.), Agriculture and Economic Growth: Japan's Experience, 1970, 250-269. Princeton University Press, Princeton, New Jersey 08540.

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Authors analyse part-time farming in post-war Japan. Part-time farming has dual role of changing consumption patterns and providing additional income to overcome the income and consumption expenditure discrepancy. A theoretical labor supply model is given. The model acknowledges there are subjective equilibrium positions of the labor supply, since farm households give different relative importance to income, leisure, and farming.

Mohan, Rakesh, "Workers of Bogota: Who They Are, What They Do, and Where They Live," November 6, 1978, unpublished paper, Urban and Regional Economic Division, Development Economics Department, World Bank, 1818 H Street, N. W., Washington, D. C. 20433.

### File No. 311

Study concerns the conditions of low income households in Bogota, Colombia.

In 1977, about 27 percent of employed males were in manufacturing, 12 percent in construction and 17 percent in commerce. Women predominate in domestic service and retail trade. Income in manufacturing and construction are low, while high in finance, public administration, trade and teaching. Unemployment rates for both men and women decline with income decline. Unemployment is concentrated among the young and poor. Thus the poorest are poor because they are in low productivity activities and they cannot find jobs. The poorest consist of the young unemployed, the old unemployables, the aged and the infirm.

Moock, P. R., "The Efficiency of Women as Farm Managers: Kenya," in American Journal of Agricultural Economics Vol. 58, No. 5, December 1976, p. 831-835.

File No. 125

Paper investigates possible differences between male and female farmers in possession and means of acquiring technical information about maize production. Producers differ in technical efficiency when they experience systematic differences in yield from a given combination of inputs. Farm-level data were collected in 1971 from a sample of 152 farmers in Western Kenya.

Results indicate that women appear to make better use of labor as a production input than men. The impact of schooling is greater for women. Men with advanced education are more likely to search and find off-farm employment. Women are not expected to find work off the farm. Women do not seem to benefit from extension contact.

Naiken, L. , "Estimation of Rural Participation in Non-Agricultural Employment," in Monthly Bulletin of Agricultural Economics and Statistics Vol. 26, No. 1, January 1977, p. 1-12.

File No. 205

Author examines labor force levels and trends through national cross-tabulations of 31 countries. Rural non-agricultural population or labor force are derived from a cross-classification of population or labor force by dependence on agricultural and non-agricultural activities and residence. Three other categories of urban agricultural, urban non-agricultural, and rural agricultural are also derived. Author suggests an estimation procedure for these categories in other countries.

Norman, David W. , "Economic Rationality of the Traditional Dryland Farmers in the North of Nigeria," in Robert D. Stevens (ed. ), Chapter 3, in Tradition and Dynamics in Small-Farm Agriculture, 1977, Iowa State University Press, South State Avenue, Ames, Iowa 50010.

File No. 286

This case study describes (1) traditional farming in the Zaria area; (2) examines the influence of location and population density on type and intensity of economic activity; (3) undertakes empirical tests of profit and security goals of farmers; (4) and derives implications for introducing change.

A linear programming test confirms that families were, in general allocating resources in a manner consistent with their goal of profit maximization. About 71 percent of labor was from family sources. Forty-seven percent of the average male adult's time was spent on off-farm occupations.

Some major implications are: farmers' crop mixing practices were consistent with profit maximization and security; labor productivity must be increased; an effective extension service is vital in adopting production-increasing innovations; and new technology appears to be the most important tool for increasing output.

Organization for Economic Cooperation and Development, Part-Time Farming: Germany, Japan, Norway and United States, 1977, Agricultural Policy Reports, Paris.

File No. 258

Report discusses history of part-time farming in Germany, Japan, Norway and the U. S. , identifies important off-farm employment and analyses reasons for farmers taking off-farm jobs.

Off-farm jobs commonly include employment in large-scale industry, building and construction. The main reasons for taking off-farm jobs were insufficient incomes from farming, idle manpower on the farm, poor prospects for farming and liquidity. As off-farm incomes have improved substantially, income of farm households has improved.

Oshima, T. , "Labor-Force 'Explosion' and the Labor-Intensive Sector in Asian Growth," in Economic Development and Cultural Change Vol. 19, No. 2, January 1971, p. 161-183.

File No. 175

Author shows the importance of non-agricultural labor-intensive sector. This sector provides employment for 2/3 to 3/4 of non-agricultural labor force.

Employment in these smaller-scale units is increasing and should lead to a more equal distribution of family incomes, since families in smaller units will be more fully employed. A more equal distribution for countries like the Philippines and Ceylon may be optimal both for increased employment (via higher aggregate demand) and for increased productivity (via more savings). If these benefits of small-scale production are to occur, the efficiency of small units must be raised.

Overseas Liaison Committee, "Small-Scale Industries," in Rural Development Network Bulletin, American Council on Education, No. September 1977.

This publication reviews and summarizes many of the on-going research activities in the area of small-scale industries. Attention is given to both organizational efforts and publications. A good bibliography is included.

Paulson, JoAnn, "Rural Labor Policies in the Agricultural Development Strategies of the People's Republic of China," Staff Paper P77-5, February 1977, Department of Agricultural & Applied Economics, University of Minnesota, St. Paul, Minnesota 55108.

File No. 78

Paper shows how labor policies have been used for problems of rural employment and furthering development in China. Labor policy has the primary objectives of increasing labor force participation rates and improving labor efficiency. Labor force participation rates are increased through institutional changes such as creation of communes. Paper presents a historical overview of the collectivization process. Collectivization has increased labor participation, utilization, productivity, and incentives, but restricts mobility of labor to areas where marginal productivity is high.

Perkins, Brian B., "Farm Income and Labor Mobility," in American Journal of Agricultural Economics, Vol. 55, No. 5, 1973, p. 913-920.

OSU Libraries

Author argues that the major cause of low incomes and resource immobility in farming sector is due to maldistribution of resources, preferences and degree of participant knowledge, plus constraints on long-run options that employment decisions impose. Uses Canadian data to explain labor mobility. Author examines relation of human resource earnings in farm and non-farm opportunity costs by comparing earning in farm and non-farm occupations and farmers' expected farm earnings against expected non-farm earnings. Promotion of rural employment, multiple jobholding and growth of larger farms are stressed to alleviate low-income problem.

Pollak, R. A. and M. L. Wachter, "The Relevance of the Household Production Function and Its Implications for the Allocation of Time," in Journal of Political Economy Vol. 83, No. 2, April 1975, p. 255-277.

File No. 124

Authors criticize household production approach and its application for the allocation of time. Many applications of the model, especially those making use of implicit commodity prices require that the household's technology exhibit constant returns and no joint production. Otherwise, implicit commodity prices depend upon the household's preferences, technology and the prices of market goods. Joint production is pervasive in situations involving the allocation of time. Alternative approaches are suggested.

Polzin, P. and P. MacDonald, "Off-Farm Work: A Marginal Analysis," in Quarterly Journal of Economics Vol. LXXXV, 1971, p. 540-545.

File No. 14

Study examines allocation of time between farm and off-farm work using classical optimizing rule. This rule states that any activity is increased until marginal returns are equal in all competing activities. Predicts farm people allocate time so marginal product of farm work is just equal to the net wage paid for non-agricultural labor. Results support classical model which implies off-farm work varies directly with factors associated with high net wage and inversely with the marginal revenue product of farm labor.

Price, E. and R. Barker, "A Preliminary Evaluation of the Time Distribution of Crop Labor as a Criteria for Design and Testing of New Rice-based Cropping Patterns," May 27-28, 1977, unpublished paper, Prepared for the Symposium on Household Economics, The Regent of Manila, Philippines.

File No. 82

Modern rice varieties have resulted in higher yields and greater crop intensification. IRRI is attempting to develop new rice-based crop combinations which will produce more food per ha. and have a good likelihood of adoption by farmers. New cropping patterns that utilize off-season labor and minimize use of peak-season labor are more apt to provide a higher level of profitability.

Quizon, Elizabeth King, "Time Allocation in Philippines Rural Households: The Laguna Case," May 27-28, 1977, unpublished paper, Prepared for the Symposium on Household Economics, The Regent of Manila, Philippines.

File No. 82

Study describes the decision-making process within the household by identifying the determinants of the allocation of time among family members.

Time is divided into market work, home production, and leisure. Study examines the difference between farm and non-farm households.

Reed, Edward P., "Analysis of Farm Household Income Trends and Structure in South Korea," Land Tenure Center Newsletter No. 58, October-December 1977, 12-26, University of Wisconsin, Madison, Wisconsin 53706.

File No. 302

Paper examines economic growth of South Korean agriculture and trends in farm household income growth and structure. Recent government policies have resulted in significant growth of average farm family incomes since 1970. A large gap remains between incomes of farms and urban households. Income inequality among farm households has increased substantially. Fundamental changes are needed in the agricultural and nonagricultural sectors to create more rural nonfarm opportunities for small farmers.

Reinsel, Edward I., "Off-Farm Income of People Involved in Farming," in Southern Journal of Agricultural Economics Vol. 2, No. 1, December 1970, p. 115-119.

OSU Libraries

U. S. farm income sources are examined using federal income tax returns. In 1966, off-farm income was a major source of earnings for farm families. Two-third of off-farm income is from wages and salaries with these usually increasing as farm losses increase, except in the case of farmers with large losses (\$3,000 or more). Investments and non-farm businesses are similarly related with off-farm income.

Resnick, S. A., "The Decline of Rural Industry Under Export Expansion: A comparison Among Burma, Philippines, and Thailand, 1870-1938," in Journal of Economic History Vol. 30, No. 1, March 1970, p. 51-73.

File No. 143

Article attempts to explain economic and social forces underlying economic transformation of these three Southeast Asian countries from agrarian to commercial societies.

Varying economic consequences were dependent on the respective precolonial history and type of colonial or governmental rule. All three countries generated an agricultural surplus as resources were allocated from farm non-agricultural to farm agricultural production. Distribution, however, was not equal and the farm family was not much better off than prior to 1870. Only the Philippines was able to effectively transform the generated surplus into domestic manufacturing.

Rosenzweig, M. R. , "Rural Wages, Labor Supply and Land Reform: A Theoretical and Empirical Analysis," Center Discussion Paper No. 270, November 1977, Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, Connecticut 06520.

File No. 136

Author investigated the wage effects of redistribution of landholdings through rural labor market models with attention to labor heterogeneity and determinants of off-farm labor supply.

Analyses suggest the Indian rural labor market is competitive. Inter-district wage differences can be attributed to geographical differences in the relative positions of labor market supply and demand curves. A monopsonistic wage and employment situation exists in areas characterized by a high degree of land-holding inequality. A redistribution of land would significantly raise agricultural wage levels, and thus benefit landless households, although sex-differentials would appear to widen.

Rosenzweig, Mark R. , "Neoclassical Theory and the Optimizing Peasant: An Econometric Analysis of Market Family Labor Supply in a Developing Country," Discussion Paper No. 72, March 1977, Research Program in Developmental Studies, Woodrow Wilson School, Princeton University, Princeton, New Jersey 08540.

File No. 61

Study employs neo-classical theory to determine labor supply behavior in two-person households of rural India. Study also compares landed and landless households.

The results show that education reduces off-farm labor (increased managerial ability on farm); inclusion of off-farm opportunity variables are positive; and young children have no effect on supply.

Saito, Katrine A. and Dan P. Villanueva, "Transaction Costs of Credit to the Small-Scale Sector in the Philippines," Domestic Finance Studies No. 53, December 1978, World Bank, 1818 H Street, N. W. Washington, D. C. 20433.

OSU Libraries

Study estimates transaction costs of lending to small-scale sector by different financial institutions in the Philippines.

Transaction costs for small-scale farmers were found to range from 5-7 percent of outstanding loans. Administrative costs were between 3 and 4 percent. Default risk expenses vary considerably with the institution ranging from 2 to 3 percent. Cost of funds is 5-7 percent; thus lending to small-scale farmers can be viable at interest rates of 10-14 percent. Transaction costs of lending to small-scale industry are slightly lower.

Schumacher, E. F. , "Employment Possibilities of Different Types of Technological and Structural Innovations," in R. Robinson and P. Johnston (eds.), Chapter 4, Policies for Rural Employment. Prospects for Employment Opportunities in the Nineteen Seventies, 134-142. Foreign and Commonwealth Office, Cambridge University Overseas Study Committee, Cambridge, England.

File No. 231

Author observes that the lack of job opportunities in developing countries can be traced to a shortage of capital. He questions how capital requirements for job creation can be minimized and argues that neither aid giving nor receiving countries obtain information on "self-help" or "intermediate" technologies.

Author suggests four steps to develop non-agricultural activities with high employment potential and relatively modest capital needs: (1) assemble and disseminate knowledge of self-help technologists; (2) avoid adoption of affluent consumption patterns; (3) establish an effective Development Industries Extension Service (DIES) and (4) develop intellectual communications in rural provinces. The components of an effective DIES are listed and seven examples of important non-agricultural activities are given.

Scott, John T. , Jr. , and P. L. Wahi, "Factors Affecting the Labor Supply Schedule in an Industrializing Rural Area," in Illinois Agricultural Economics Vol. 14, No. 1, January 1974, p. 31-36, Department of Agricultural Economics, University of Illinois at Urbana-Champaign, Illinois 61801.

File No. 218

Paper reports on study of labor response in two areas of Illinois. Labor response to wage or income required to change jobs, wage required to take part-time work in addition to regular full-time work, and the amount of time per week offered for additional part-time work were analyzed.

Study shows that job mobility of a worker declines with age, education, socio-economic status, and higher income.

Sexton, Roger N. , "Determinants of Multiple Job-Holding by Farm Operators," 1975, unpublished Ph. D. Dissertation, Department of Economics and Business, North Carolina State University, Raleigh, North Carolina 27607.

File No. 31

Study analyzes factors affecting amount of labor time supplied to off-farm work by farm operators. A theory of multiple job-holding was developed to investigate effect on labor supply of changes in wage rates received from farm and off-farm jobs. An off-farm labor supply model was tested using cross-section data from farm operators in Virginia, South and North Carolina and Illinois.

Results indicate that off-farm labor supply was positively related to the off-farm wage rate received by operators and negatively related to the farm wage rate. Off-farm labor supply of low income farm operators was very responsive to off-farm wage rates.

Sharples, Jerry and Allen Prindle, "Income Characteristics of Farm Families in the Corn Belt," in Agricultural Finance Review Vol. 34, July 1973, p. 12-17.

File No. 47

Study is based on a 1966 survey of farmers in Ohio, Indiana, Illinois, Missouri, and Iowa. It examines the income situation of farm operators, the relationships between farm size, net worth, and access to off-farm work with income. Mean farm family income in 1966 was \$6,700. Distribution of farm income was highly skewed--58 percent receiving less than \$3,000 when not considering off-farm income. Half the average farm family income is from off-farm jobs, interest, dividends, rents, etc.

Shisko, R. and B. Rostker, "The Economics of Multiple Job-Holding," in The American Economic Review Vol. 66, No. 3, June 1976, p. 298-308.

File No. 178

Authors develop and test a model of multiple job holding. Results confirm previous studies showing supply of moonlighting labor increases, with the moonlighting wage rate and falls with primary job earnings. Family size is positively related to moonlighting hours, while age shows a negative relationship.

Simmons, Emmy, "The Small-Scale Rural Food Processing Industry in Northern Nigeria," in Food Research Institute Studies in Agricultural Economics Vol. 14, No. 2, 1975, p. 147-161.

File No. 266

Paper explores economic viability of the firm and its characteristic self-employment patterns. Of the six rural food enterprises studied, all but one were profitable. The two industries most likely to earn a substantial wage-profit demanded significantly larger amounts of working capital. All firms need minimal amounts of production labor in addition to principal producer. Female employment varies with availability and price of raw materials, the availability of capital, individual skills in balancing costs and prices, and personal and family circumstances.

Smith, James P., "Family Decision Making Over the Life Cycle: Some Implications for Estimating the Effects of Income Maintenance Programs," November 1973, Prepared for the Economic Development Administration and the Office of Economic Opportunity. Rand Corporation, Santa Monica, California 90406.

File No. 164

Author develops a model that explicitly analyzes variations in labor supply over a person's lifetime. Comparison is made with the standard one-period model. A major conclusion is that for a significant part of the recipient population the one-period model may be inappropriate to analyze the potential effects of a Family Assistance Plan because participation depends on family characteristics that vary over the life cycle.

Findings indicate a strong case can be made that expected reduction in market work will take place among females. An increase in market work for young males would be expected.

Smith, V. and C. Liedholm, "Household-Farm Models for Rural Families in Sierra Leone," September 1, 1977, unpublished paper, Department of Economics, Michigan State University, E. Lansing, Michigan 48824.

File No. 325

Paper presents models for analyzing rural households in Sierra Leone. Two variants are developed: one for studying labor demand and supply decisions and another for analyzing food consumption.

A model is also developed for a rural household engaged in both farm and nonfarm activities. It provides a check list of possibly relevant variables, many of which may be neglected in any empirical estimation procedure.

Spencer, D. S. C. and D. Byerlee, "Technical Change, Labor Use, and Small Farmer Development: Evidence from Sierra Leone," in American Journal of Agricultural Economics Vol. 58, No. 5, December 1976, p. 874-880.

File No. 129

Authors highlight findings of a detailed nationwide farm management survey in Sierra Leone with respect to labor use in rice production. Study first examines the impact of different technological packages on resource combinations and returns to labor. Authors then examine labor supply by analyzing the impact of technological change upon household family labor inputs and differentiation of labor use by sex. The analysis demonstrated that peak season labor demand is a constraint to increased production. There is little underutilized labor and there appears to be a sex-specific nature for farm activities.

Steele, David, "Kenya Special Study," July 1976, Rural Development Division, World Bank, 1818 H Street, N. W., Washington, D. C. 20433.

File No. 4

Study reports on a Mission to Kenya to assess the extent, growth characteristics and constraints on expansion of rural non-agricultural sector. Attention was concentrated on possibility of assisting small artisan-level activities, assisting rural non-agricultural activities by aiding the development of rural markets, and assisting small farm productivity by developing rural farm implements industries. The number of rural industries and their employment were reported. Study analyzed constraints on expansion including credit, training, workshop sheds, extension assistance, promotion of new projects, agricultural equipment, rural markets, rural electrification and rural roads.

Subrahmanyam, K. and J. G. Ryan, "An Analysis of the Rural Labor Market in India: Kamzara Village, Maharashtra," July 1976, Economics Department ICRISAT, Hyderabad-500 016, India.

File No. 254

Objective of study was to calculate the seasonal opportunity cost of labor. Method involved weighting average wage rates paid to all those who obtained work in a given period by the probability of employment. Data were taken from one of six villages selected for village level studies conducted by ICRISAT. Sample consisted of 40 households, 30 from three farm size groups and 10 households from labor category.

Results showed wage rates positively correlated with the probabilities of employment. Males from labor households tended to participate in the market less when the probabilities of employment were high and more when the probabilities were low. A correlation coefficient of -0.63 suggests a backward bending labor supply function. For cultivator households, there were positive relationships between participation rates and employment probabilities. Authors conclude these results are contrary to expectations.

Sunil, Guha, "The Contribution of Non-Farm Activities to Rural Employment Promotion: Experience in Iran, India and Syria," in International Labor Review Vol. 109, No. 3, March 1974, p. 235-250.

File No. 210

Paper stresses need for new forms of non-farm activities beyond traditional handicrafts located in rural areas or in nearby towns accessible to rural populace. Author presents a comprehensive strategy including the identification of existing and potential rural non-farm activities, elaboration of practical projects based on feasibility studies, provision of institutional credit facilities, and special training programs for young rural workers.

Thirsk, Wayne R., "A Note on Goods, Marketed Surplus and the Labor Intensity of Small Farm Agriculture," Program of Development Studies, Paper No. 40, Contract No. AID/CSD-3302, Spring 1973, Department of Economics, Rice University, Houston, Texas 77001.

File No. 251

Authors present a model of a goods production to show how factor endowment of small farms affects decision to sell or consume farm output. Higher labor intensity shifts the comparative advantage of production toward greater z goods and less crop production. Higher labor-land ratios will be associated with lower marketed surplus. Small farms in Colombia support the hypothesis about small farm factor proportions. An inverse relationship between farm sales and land-labor ratios was found. Increases in the non-agricultural demand for labor which was satisfied by small farm workers will elicit an increased supply of crop goods from small farms.

Timmer, C. Peter, "The Choice of Technology in Developing Countries: The Choice of Technique in Indonesia," Harvard Studies in International Affairs, No. 32, 1975, Center for International Affairs, Harvard University, Cambridge, Massachusetts 02138.

File No. 228

Open and disguised unemployment appears to be getting worse in the Indonesian economy. Important reasons include incorrect preparation and evaluation of domestically and foreign-funded government projects. Paper analyzes the bias of economic and engineering technicians against labor-intensive techniques by examining proposals for investment in rice milling facilities. Unemployment can be dealt with by making labor-intensive alternatives mandatory in investment surveys and by providing planners with economically rational guidelines for project preparation and evaluation.

Turner, F. L., and others, "The Artisan Community in Ecuador's Modernizing Economy," SRI Project No. II-4479, November 1963, Stanford Research Institute, Menlo Park, California.

Authors examine the nature and future potential of the Ecuadorian artisan community. In 1961 the Artisan community of some 230,000 persons produced most manufactured products consumed in Ecuador. Most artisans rely upon simple methods in the production of clothing, footwear, food, and wood products. The country expanding industrialization which implicitly requires the transformation of the traditional artisan sector.

The authors identify programs to stimulate the proposed transition. Such programs include incentives through industrial extension services, small industrial loans, provision of common facilities, modification of the tax and legal structure, and the opening of foreign markets to labor-intensive products.

Van Warmelo, W., "The Development of Small Enterprises in Taiwan, Republic of China," January 1968, U. S. Agency for International Development, Washington, D. C. 20523.

Family enterprise is the dominant organizational feature in Taiwan's manufacturing industry. Although these enterprises are small, collectively they significantly contribute to the national product. They accounted for two-thirds of the total value of the production in manufacturing according to the 1961 Industry and Commerce Census. Governmental support includes tax holidays, tax benefits, etc., facilities to disseminate technical information, and the provision of credit under public assistance programs.

Vander Veen, J. H. , "A Study of Small Industries in Gujarat State, India," Contract No. AID/CSD-2805, Occasional Paper No. 65, May 1973, Employment and Income Distribution Project, Department of Agricultural Economics, Cornell University, Ithaca, New York 14850.

File No. 238

Author examines the urban unregistered industrial subsector of Gujarat State, India. These manufacturing units are characterized by low capital/emoluments ratios and by high employment/capital ratios. Returns to invested capital were good and indicate future expansion.

The units are tightly linked to the rest of the industrial economy so any policy to promote expansion of this subsector must consider all aspects of the urban and industrial economy.

Villa Issa, M. R. , "The Effect of the Labor Market on the Adoption of New Production Technology in a Rural Development Project: The Case of Plan Puebla, Mexico," 1976, unpublished Ph. D. Dissertation, Department of Agricultural Economics, Purdue University, W. Lafayette, Indiana 47907.

File No. 93

This dissertation examines hypothesis that farmers in Puebla face labor constraints in the adoption of new technologies. A second hypothesis is that farmers who participate actively in off-farm labor market are less likely to adopt new technologies.

The predominant tendency is for farmers to work in the off-farm labor market during slack agricultural seasons. Non-adopters worked on average 47 more days off the farm than adopters. The two groups have different production functions and both are economically rational in that they optimize the allocation of labor and fertilizer. Gross income for the two sectors are similar, but non-adopters earn 76 percent of their income from off-farm work compared to 36 percent for adopters.

Wall, Nelson C. , "Small-Scale Industry Development in South Santa Catarina, Brazil," February 1976, U. S. Agency for International Development, Washington, D. C. 20523.

Study analyzed small-scale industries in Brazil and particularly the state of Santa Catarina. Over 90 percent of all industrial establishments in Brazil are small- and medium-sized industries. They employ over 60 percent of all the industrial workers and generate over 50 percent of the value added by manufacture. State and national programs for industrial development are analyzed.

Wall, Nelson, C., "A Study of Rural Small Industry Problems and Potentials (Associated with Rural Development in the Southern Siliana Area of Tunisia)," Contract No. AID/NE-C-1281, February 1977, International Programs Division, Engineering Experiment Station, Georgia Institute of Technology, Atlanta, Georgia 30332.

Author examines the problems and potential of small industries in the Southern Siliana area of Tunisia. The chief findings were that few trained persons are available for productive activities, the project area has a dispersed and somewhat isolated population, and there is a limited number of surfaced roads. Traditional attitudes isolate women from many productive activities. The most basic limitation is that there is no visible delivery system to link existing knowledge to the needs of small-scale enterprises.

Watanake, Susumu, "Reflections on Current Policies for Promoting Small Enterprises and Subcontracting," in International Labor Review Vol. 110, No. 5, November 1974, p. 405-419.

File No. 262

Author examines the differences in capital/labor, capital/output, and output/labor ratios in Japanese enterprises of varying sizes. The Indian approach to small enterprises and industrial subcontracting is discussed. The capital/output and capital/labor ratios of small Japanese enterprises are heavily influenced by relative importance of buildings, land and other infrastructure. Output/labor ratios rise with the size of enterprise.

Small enterprises in India require more capital per unit of output and labor because of overhead capital and widespread underutilization of production facilities.

World Bank, Employment and Development of Small Enterprises, Sector Policy Paper, February 1978, World Bank, 1818 H Street, N. W., Washington, D. C. 20433.

File No. 273

Paper studies the potential World Bank role in assisting LDC's to expand demand for urban labor. First section describes advantages and disadvantages of small scale enterprise (SSE) development.

The coordination of financial and technical assistance, the needs of artisans and modern enterprises, and alternatives to the middlemen are explored.

Conclusions indicate: (1) expansion of demand for labor is perhaps the most important method of benefitting the great mass of population; (2) smaller enterprises provide more jobs per unit of investment than larger ones; (3) a variety of measures have been identified for mitigating weaknesses of SSE's.

Wygard, E. J. and S. Williams, "A Practical Plan for Rural Industrialization," March 17-21, 1975, Presented at the Seminar on Agricultural Policy, The Inter-American Development Bank, Washington, D. C.

File No. 185

Authors consider how to encourage rural industrialization within Latin America. The most viable types of rural industries and the criteria for success are examined. The three most viable industry classifications are those directly related to agriculture, other labor-intensive industries, and service industries. Acceptable return to the investor is the most important criterion for success. A successful plan to rural industrialization requires commitment by highly specialized, top ranking institutions, with longevity and money. Rural industrialization policies should be incorporated into agricultural programs and rural development strategy.