



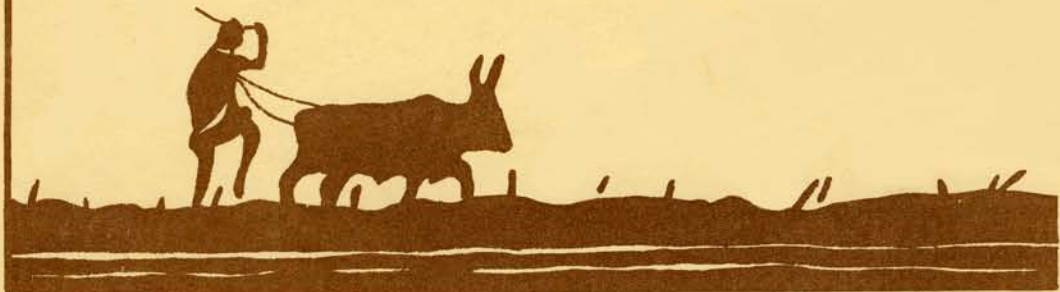
**OFFICE OF INTERNATIONAL
AGRICULTURAL PROGRAMS
U.S. AID TITLE XII
STRENGTHENING GRANT**

**FARMING SYSTEMS RESEARCH
BIBLIOGRAPHY OF KANSAS STATE
UNIVERSITY'S VERTICAL FILE MATERIALS:
1990 SUPPLEMENT**

Tod L Meyn and Nancy Donoghue
Compilers and Editors

Paper No. 4S2
(Supplement Two to the Revised Edition)
Fall 1990

**FARMING SYSTEMS RESEARCH
PAPER SERIES**



**KANSAS STATE UNIVERSITY
MANHATTAN, KANSAS 66506 U.S.A.**

**A FARMING SYSTEMS RESEARCH
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Kansas State University's Farming Systems Research (FSR) Paper Series is supported by the U.S. Agency for International Development Title XII Program Support Grant. The goal of the Program Support Grant is to increase the University's ability to implement Title XII agricultural and nutritional development assistance programs in developing countries. This paper series is maintained by the FSR Program Associates -- a multidisciplinary team of professors who are aiming their activities at applied research on farming from a systems perspective.

The purpose of the FSR Paper Series is to disseminate information on FSR. Publication categories include updated bibliographies from KSU's FSR data base; proceedings from KSU's FSR Systems Symposium; selected papers presented in KSU's FSR Seminar Series; and selected papers prepared by KSU's Program Associates.

Vernon C. Larson
Director
International Agricultural Programs

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The Technical Advisory Committee's Review Team of Farming Systems Research has defined a farming system as:

"a complicated, interwoven mesh of soils, plants, animals, implements, workers, other inputs and environmental influences with the strands held and manipulated by a person called the farmer who, given his [or her] preferences and aspirations, attempts to produce output from the inputs and technology available to him [or her]. It is the farmer's unique understanding of his immediate environment, both natural and socio-economic, that results in his [or her] farming system."

It goes on to describe FSR as:

"research (including training) which: (1) is conducted with a recognition of and focusing towards the interdependencies and inter-relationships that exist among elements of the farm system, and between these elements and the farm environment; and (2) is aimed at enhancing the efficacy of farming systems through the better focusing of agricultural research so as to facilitate the generation and testing of improved technology.

"The major activities involved in FSR are:

- (a) The collection and analysis of base data;
- (b) The study of existing farming systems;
- (c) The design of new farming systems;
- (d) Farm systems experimentation; and
- (e) The evaluation and monitoring of new farming systems."

THE SUPPLEMENT...

is the result of the KSU Farming Systems Research Program's ongoing documentation effort, and lists FSR vertical file material and selected publications with Library of Congress classification numbers found within KSU's Farrell Library. A complete listing of FSR documents at KSU cited prior to this supplement can be found in the following two previously issued bibliographies:

Graham, Gretchen A., ed. A Farming Systems Research Bibliography of Kansas State University's Vertical File Materials (Revised). Farming Systems Research Paper Series no. 4. Manhattan, Kan.: Resources on Developing Countries, Farrell Library, Kansas State University. 1986.

Young, Noel D. and Elsa Eaton, eds. A Farming Systems Research Bibliography of Kansas State University's Vertical File Materials: Some Selections from the Peter E. Hildebrand Collection, Part One. Farming Systems Research Paper Series no. 4S1 (supplement 1 to the rev. ed.). Manhattan, Kan.: Resources on Developing Countries, Farrell Library, Kansas State University. 1988.

Two other bibliographies in the FSR Paper Series are:

Young, Noel D. and Tod L. Meyn, comps. and eds. Women in Development: Selections from Kansas State University's Vertical File Materials. Farming Systems Research Paper Series no. 21. Manhattan, Kan.: Resources on Developing Countries, Farrell Library, Kansas State University. 1989.

Young, Noel D. and Tod L. Meyn, comps. and eds. Botswana and Bechuanaland Items Held in Farrell Library: A Compendium of Books, Documents, Reports, Journal Articles, and Fugitive Literature, Part One. Farming Systems Research Paper Series no. 20. Manhattan, Kan.: Resources on Developing Countries, Farrell Library, Kansas State University. 1989.

The vertical file material includes unpublished papers, drafts, house organs and other non-conventional items. Keyword, title and primary author indices are provided. The standard for keywording is an "enhanced" CAB Thesaurus.

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Frankenberger, T.R. (1986) Tucson, Ariz.: Univ. of Arizona, College of Agriculture. (Mauritania Agricultural Research Project II; Report No.3, Apr. 1986) 105p.

KEYWORDS: Africa, West Africa, Mauritania, semiarid zones, surveys, food consumption, food preferences, food preparation, food prices, food storage, food distribution, wild plants, diseases, women, gardens, food shortages, seasonality

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ABBREVIATIONS. ACRONYMS. AND INITIALISMS

AAAS	American Association for the Advancement of Science
AABGA	American Association of Botanical Gardens and Arboreta
ACDI	Agricultural Cooperative Development International
ACIAR	Australian Centre for International Agricultural Research
AD	Agricultural Administration
ADB	Asian Development Bank
ADC	Agricultural Development Council
ADNP	Agricultural Development Ngamiland Project
AFTRCW/UNEC	African Training and Research Centre for Women/United Nations Economic Commission for Africa
AHS	American Horticulture Society
AIA	Agricultor-Investigacion-Agricultor
AICRPDA	All India coordinated Research Project for Dryland Agriculture
AID/S&T	Agency for International Development/Bureau for Science and Technology
AID	Agency for International Development
ALDEP	Arable Lands Development Program
APCWD	Asian and Pacific Centre for Women and Development (Bangkok, Thailand)
ASA	American Society of Agronomy
ASAE	American Society of Agricultural Engineers
ASPAC/FFT	Food and Fertilizer Technology Center of the Asian and Pacific Region
ASTA	American Seed Trade Association
ATIP	Agricultural Technology Improvement Project (Botswana)
AVRDC	Asian Vegetable Research and Development Center
BAEP	Bureau of Economic Analysis and Planning
BARC	Bangladesh Agricultural Research Council
BIFAD	Board for International Food and Agricultural Development
BDPA	Bureau pour le developpement de la production agricole
c	copyright
C.I.A.T.	Centro de Investigacion Agricola Tropical (Bolivia)
CAEP	Caribbean Agricultural Extension Project
CARDI	Caribbean Agricultural Research and Development Institute (U. of the West Indies)
CATIE	Centro Agronomico Tropical de Investigacion y Ensenanza
CATIE/ROCAP	Centro Agronomico Tropical de Investigacion y Ensenanza/Regional Office for Central American Programs
CDR	Centre for Development Research
CENDA	Centro de Desarrollo Agropecuario (Zona Norte)

CENDERCO	Centro para el Desarrollo Rural y Cooperativo
CENDHARRA	Centre for the Development of Human Resources in Rural Asia (San Juan, Rizal, Philippines)
CENTA/BID	Centro Nacional de Tecnologia Agropecuaria/? (El Salvador)
CENTA	Centro Nacional de Tecnologia Agropecuaria
CEPAL	Economic Commission for Latin America (Santiago, Chile)
CES	Cooperative Extension Service (U.S.)
CGIAR	Consultative Group on International Agricultural Research
CIAR	Centro Internacional de Agricultura Tropical
CIARLA	Centro de Investigaciones Agropecuarias Region Los Andes
CIAT	Centro Internacional de Agricultura Tropical
CID	Consortium for International Development
CIDA	Canadian International Development Agency
CILSS	Comite permanent interetat du lutte contre le secheresse dans le Sahel- Permanent Interstate Committee for Drought Control in the Sahel)
CIMMYT	Centro Internacional de Mejoramiento de Maiz y Trigo
CIP	Centro Internacional de la Papa
CIPEA	Centre international pour l'elevage en Afrique
CLADES	Latin American Centre for Economic and Social Documentation
CLSR	Crop-Livestock Systems Research
CLSU	Central Luzon State University
comp., comps.	compiler, compilers
CRDI	Centre de recherche pour le developpement international
CRIA	Central Research Institute for Agriculture (Indonesia)
CRIFC	Central Research Institute for Food Crops
CRSP	Collaborative Research Support Program
DAI	Development Alternatives, Inc.
Dept.	Department
DESFIL	Development Strategies for Fragile Lands
ed., eds.	editor, editors
EFSaip	Evaluation of Farming Systems & Agricultural Implements Project (Sebele, Botswana)
EMBRAPA et al.	Empresa Brasileira de Pesquisa Agropecuaria (used when there are more than 3 authors)
FAO	Food and Agriculture Organization of the United Nations
FAO/SID	Food and Agriculture Organization of the United Nations/Swedish International Development Agency
FONAIAP	Fondo Nacional de Investigaciones Agropecuarias(?)/Development(?)(Project)
FSDP-EV	Farming Systems Development Project - Eastern Visayas (Philippines)
FSIP	Farming Systems Improvement Project (Rwanda)
FSR	farming systems research
FSR/E	Farming Systems Research/Extension
FSR/D	Farming Systems Research/Development

FSSP	Farming Systems Support Project (University of Florida, Gainesville)
FSSP/GARD	Farming Systems Support Project (University of Florida, Gainesville)/Gambia Agricultural Research and Diversification (?)
FSSR	Farming Systems Southern Region
FY	fiscal year
GARD	Gambia Agricultural Research and Diversification (?)/Development (?) (Project)
GERDA	Groupement d'études et du recherches pour le developpement de l'agronomie tropical
GIS	geographic information systems
HYVs	high yielding varieties
IAAE	International Association of Agricultural Economists
IADS	International Agricultural Development Service
IAF	Inter-American Foundation
IAFP	International Agricultural and Food Program (Cook College, Rutgers University)
IARCS	International Agricultural Research Centers
IARI	International Agricultural Research Institute
IBPGR	International Board for Plant Genetic Resources
ICA	Instituto Colombiano Agropecuario
ICAR	Indian Council of Agricultural Research
ICARDA	International Center for Agricultural Research in the Dry Areas
ICLARM	International Centre for Living Aquatic Resources Management
ICMRD	International Center for Marine Resource Development
ICRAF	International Center for Research in Agroforestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICRW	International Center for Research on Women
ICTA	Instituto de Ciencia y Tecnologia Agrícolas-Institute of Agricultural Science and Technology (Guatemala)
IDIAP	Instituto de Investigaciones Agropecuarias de Panama
IDRC	International Development Research Centre
IDS	Institute for Development Studies
IDS	international development strategy
IDWSSD	International Drinking Water Supply and Sanitation Decade
IE&R, IPIA	International Education and Research, International Programs in Agriculture (Purdue U.)
IFAD	International Fund for Agricultural Development
IFDC/IRA	International Fertilizer Development Center/Institute du recherche agronomique
IFOAM	International Federation of Organic Agricultural Movements
IFPP	Integrated Farming Pilot Project (Pelotshelha)
IFPRI	International Food Policy Research Institute
IIAP	Instituto de Investigaciones Agropecuarias de Panama

IICA/INR	Inter-American Institute for Cooperation on Agriculture/Institute national de recherches agronomiques
IICA/CIDIA	Inter-American Institute for Cooperation on Agriculture - Instituto Interamericano de Ciencias Agricolas de la Organizacion de Estados Americanos/Centro Interamericano de Documentacion e Informacion Agricola
IITA	International Institute of Tropical Agriculture
ILCA	International Livestock Center for Africa
ILO	International Labour Organisation
INCAP	Instituto de Nutricion de Centroamerica y Panama
INIA	Instituto Nacional de Investigaciones Agrarias
INIAP	Instituto Nacional de Investigacion Agropecuaria
INRA	Institute national de la recherche agricole
INRAN	Institute national de recherches agronomiques des Niger
Inst.	Institute
INSTRAW	International Research and Training Institute for the Advancement of Women
INTERPAKS	International Program for Agricultural Knowledge Systems (U. of Illinois, Urbana-Champaign)
INTSORMIL/CRSP	International Sorghum/Millet/Collaborative Research Support Program
INTSORMIL	International Sorghum/Millet
IPIA	International Programs in Agriculture (Purdue University)
IPM	integrated pest management
IRAEN	International Rice Agro-Economic Network
IRAT	Institute des recherches agronomiques tropicales et des cultures vivrieres
IRCs	International Research Centers
IRCT/Mali	Institut de recherche du coton et des textiles exotiques (Mali)
IRRI	International Rice Research Institute
ISA	Investigacion de Sistemas Agropecuarios
ISAR	Institute for Agricultural Research (Rwanda)
ISNAR	International Service for National Agricultural Research
ISRA	Institut Sénégalais de Recherche Agricole - Senegal Agricultural Research Institute
ISS	Institute of Social Studies
IUFS&T	International Union of Food Science & Technology (Goteborg, Sweden)
IUNS	International Union of Nutritional Sciences (Zurich)
KKU	Khon Kaen University, Thailand
KKU/FCSP	Khon Kaen University/Ford Cropping Systems Project
KSU	Kansas State University (Manhattan, Kansas)
LASA	Lesotho Agricultural Sector Analysis Project
MAFC	Ministry of Agriculture, Food and Consumer Affairs (Barbados)
MARC	Monitoring and Assessment Research Centre
MARIF	Malang Research Institute for Food Crops

MDP	Molapo Development Project (Maun)
MF	microfiche
MIAC	MidAmerica International Agricultural Consortium
MIDAS	Managed Inputs and Delivery of Agricultural Services
MP	miscellaneous papers
MSTT	Modular System for Technology Transference
MSU	Michigan State University (East Lansing, Michigan)
n.d.	no date of publication
NADP	Ngamiland and Agricultural Development Project (Gomare)
NARS	national agricultural research systems
NERAD	Northeast Rainfed Agricultural Development Project (Thailand)
NGA	National Grains Authority (Quezon City, Philippines)
NGO	non-governmental organization
NIEO	new international economic order
NOAA	National Oceanic and Atmospheric Administration
NRDP	National Rural Development Project (Malawi)
NSW/ACT	New South Wales/Australian Capital Territory
OAS	Organization of American States
OAU/STRC	Organization of African Unity/Scientific Technical Research Commission
OAU	Organization of African Unity
ODA	Overseas Development Administration
ODI	Overseas Development Institute
OECD	Organization for Economic Cooperation and Development
OLC	Overseas Liaison Committee (American Council on Education)
ORD	Organisme regional de developpement
ORSTOM	Office de la recherche scientifique et technique outre-mer
PACO	Projet Agricole du Centre-Ouest (Ivory Coast)
PAR	planning-centered approach to research
PARC	Pakistan Agricultura Research Council
PASITA	Program of Advanced Studies in Institution Building and Technical Assistance Methodology
PC	paper copy
PCARR	Philippine Council for Agriculture and Resources Research
PCARRD	Philippine Council for Agriculture and Resource Research and Development
PCCMCA	Programa Cooperativo Centroamericano para el Mejoramiento de Cultivos Alimenticios
PGRCE	Plant Genetic Resource Center for Ethiopia
PN	publication number
PR	progress report
PRC	People's Republic of China
PROTAAL	Proyecto Cooperativo de Investigacion sobre Tecnologia Agropecuaria en America Latina

PSCPA	Proyecto de Sistemas de Cultivo para Pequeños Agricultores y del Istmo Centroamericano
PTPA	Proyecto de Tecnología para Pequeños Agricultores
RD	reporting documents
ROC	Republic of China
ROCAP	Regional Office of Central American Programs
RPO	Real Property Ordinance (World Bank)/International Finance Corporation
RRFH	regular research field hearings
RTN	Research and Training Network
s.l.	no location of publisher/printer
s.n.	no name of publisher/printer
S&T/AGR/AP	Bureau for Science and Technology/Office of Agriculture/?
SACUC	Swaziland Agricultural College and University Centre
SADCC	Southern African Development Coordination Committee
SADDC	Southern African Development Coordination Committee
SAFGRAD	Semi-Arid Food Grains Research and Development Program
SAREC	Swedish Agency for Research Cooperation with Developing Countries
SAT	semi-arid tropics
SEADAG	Southeast Asian Development Advisory Group
SEARCA	Southeast Asian Regional Center for Graduate Study and Research in Agriculture
SIRDO	Integrated System for Recycling Organic Wastes
SOA	School On-The-Air
SR-CRSP	Small Ruminant-Collaborative Research Support Program (Germany)
SSRC/SERP	Social Science Research Centre/Socio-Economic Research Project
STRC/OAU	Scientific Technical Research Commission/Organization of African Unity
SURIF	Sukamandi Research Institute for Food Crops (Subang, West Java, Indonesia)
T&V	training and visit system
TARO	Tanzania Agricultural Research Organization
TES	typical (Developing Country) extension systems
TFNC	Tanzania Food and Nutrition Centre
TIF	Technological Improvement File
Trans.	translation
U.	University
UN	United Nations
UN/ESCAP	United Nations/Economic and Social Commission for Asia and the Pacific
UNAZA	Université Nationale du Zaïre (Zaïre)
UNDP/FAO	United Nations Development Programme/Food and Agriculture Organization of the United Nations
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNU	United Nations University (Tokyo)
us	United States

USAID	United States Agency for International Development
USDA	United States Department of Agriculture
var.	various (paging)
VITA	Volunteers in Technical Assistance
VLS	village level studies
VLS	village level studies
vol., vols.	volume, volumes
WA	West Africa
WARDA	West Africa Rice Development Association
WHO	World Health Organization
WIADP	Women in Agriculture (Development Project)
WIDRIC	Women and International Development Research and Information Center (U. of Minnesota, Minneapolis, Minnesota)
Winrock	Winrock International Institute for Agricultural Development
WIP	Winrock International publication
WIRFS	Women in Rice Farming Systems
WP	working papers
WSARP	Western Sudan Agricultural Research Project

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**FARMING SYSTEMS RESEARCH BIBLIOGRAPHY:
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FARMING SYSTEMS: DESCRIPTIVE (GENERAL AND INCLUSIVE)

- 2668 **ANNOTATED BIBLIOGRAPHY OF FARMING SYSTEMS STUDIES IN TANZANIA.** Minde, I. (1986) s.l.: Tanzania Agricultural Research Organization (TARO). (Tanzania Farming Systems Publications No.137; Contract AFR-0156-C-00-3033-00) 52p. KEYWORDS: Africa, Tanzania, bibliographies NOT OWNED BY KSUL
- 2669 **BASELINE SURVEY FOR HANANG DISTRICT, TANZANIA: A DESCRIPTION OF AGRO-ECOLOGICAL ZONES, AGRICULTURAL PRODUCTION AND THE IMPACT OF VILLAGIZATION.** Kjærby, F. (1982) Copenhagen: Centre for Development Research. (CDR Project Papers, No.D.82.1, Jan. 1982) 47p. KEYWORDS: Africa, Tanzania, baseline data, surveys, agricultural production, villages, agroecosystems FSR VERTICAL FILE # 2669
- 2670 **BENEFICIARY PROFILE OF HAUTE CHAOUIA (MOROCCO).** Morton, A. (1982) s.l.: s.n.. (Contract Number USAID/M-PSC-608-136-S-00-2006-00) 148p. KEYWORDS: Africa, Morocco, socioeconomic constraints, Rainfed Agriculture Project, woman's status, small farms, medium sized farms, large farms, cereals, credit, mechanization, FSR, cropping systems, social history, social organization, land accumulation, land fragmentation, animal sharing, employment FSR VERTICAL FILE # 2670
- 2671 **BURUNDI SMALL FARMING SYSTEMS RESEARCH PROJECT.** [1982?] [Washington: U.S. Agency for International Development (USAID)]. (USAID Project No.695-0106; includes USAID Inspector General Audit Report No.3-695-88-27, Sep. 23, 1988) 130p. KEYWORDS: Africa, Burundi, programs and projects, small farmers, institutions, appropriate technology, nutrition, food crops, evaluation FSR VERTICAL FILE # 2671
- 2672 **DIAGNOSTIC SURVEY OF MASWA AND MEATU DISTRICTS.** (Phase 1: Informal Survey) (1989) Amsterdam: Royal Tropical Institute. (Tanzania/Netherlands Farming Systems Research Project, Lake Zone; Working Paper No.4, July 1989) 64p. KEYWORDS: Africa, Tanzania, surveys, problem identification, environment, soils, population, livestock, land use, livestock, crops, crop husbandry, marketing, socioeconomic conditions, zoning, cropping patterns FSR VERTICAL FILE # 2672
- 2673 **DIAGNOSTIC SURVEY OF BUKOBA DISTRICT.** (1989) Amsterdam: Royal Tropical Institute. (Tanzania/Netherlands Farming Systems Research Project, Lake Zone; Working Paper No.3, April 1989) 53p. KEYWORDS: Africa, Tanzania, surveys, soils, population, livestock, land use, crops, marketing, socioeconomic conditions, zoning, ecology, cropping patterns FSR VERTICAL FILE # 2673

- 2674 **EVALUATION, CHOICE AND USE OF POTATO VARIETIES IN KENYA.** Crissman, L.M. (1989) Lima: International Potato Center (CIP). (Social Science Dept. Working Paper No. 1989-1) 44p. KEYWORDS: Africa, East Africa, Kenya, potatoes, varieties, evaluation, food preferences, food crops, cash crops, food production FSR VERTICAL FILE # 2674
- 2675 **FARMING SYSTEMS RESEARCH PROGRAM: INTRODUCTION.** (1980) Aleppo, Syria: International Center for Agricultural Research in the Dry Areas (ICARDA). (Internal Document, Research Report No.2, Section 1 of 7) 15p. KEYWORDS: Asia, Middle East, Syria, farming systems research, FSR, project design FSR VERTICAL FILE # 2675
- 2676 **FARMING SYSTEMS IMPROVEMENT PROJECT.** (1986) [Kigali, Rwanda: U.S. Agency for International Development (USAID)]. (USAID Project No.696-0110-C-00-5016-00; includes USAID Inspector General Audit Report No.3-696-89-05, Dec. 9, 1988) 79p. KEYWORDS: Africa, Rwanda, ISAR, programs and projects, small farmers, institutions, appropriate technology, training, food crops, beans, tubers, sweet potatoes, yields, diseases, evaluation FSR VERTICAL FILE # 2676
- 2677 **FARMING SYSTEMS SURVEY OF MANYU DIVISION, SOUTH WEST PROVINCE, REPUBLIC OF CAMEROON.** Almy, S.W. [1989] Buea, Cameroon: S.W. Almy, Cameroon National Institute of Agricultural Research (IRA)-Ekona, National Cereals Research and Extension Programme. 54p. KEYWORDS: Africa, Cameroon, surveys, planning of research, baseline data, environment, resources, cropping systems, tree cropping, maize, cassava, cocoyams, taro, plantains, bananas, yams, groundnuts, melons, beans, potatoes, rice, households, land, labor, cash crops, income, extension, livestock, markets, recommendations, farmers' attitudes FSR VERTICAL FILE # 2677
- 2678 **FARMING SYSTEMS SURVEY OF NDIAN DIVISION, SOUTH WEST PROVINCE, REPUBLIC OF CAMEROON.** Almy, S.W. [1989] Buea, Cameroon: S.W. Almy, Cameroon National Institute of Agricultural Research (IRA)-Ekona, National Cereals Research and Extension Programme. 50p. KEYWORDS: Africa, Cameroon, surveys, planning of research, baseline data, environment, resources, cropping systems, objectives, households, livestock, food crops, management, maize, cassava, cocoyams, taro, plantains, bananas, yams, groundnuts, melons, markets, cash crops, problem identification, income, labor, land, recommendations, farmers' attitudes FSR VERTICAL FILE # 2678

- 2679 **FARMING SYSTEMS RESEARCH AT THE NDFRS KATUMANI.** (With Special Reference to Semi-Arid Areas of Eastern Province of Kenya) Bakhtri, M.N. (1983) Machakos, Kenya: Ministry of Agriculture, Dryland Farming Research and Development Project. (Project Field Document No.2; Farming Systems Economics Research Program; Dryland Farming Research and Development Project (UNDP/FAO/KEN/74/017)) 65p. KEYWORDS: Africa, East Africa, Kenya, arid regions, semiarid zones, surveys, land use, soils, maize, beans, pigeon peas, cowpeas, sorghum, millets, labor productivity, animal production, cropping patterns, problem identification, recommended technology, evaluation, innovation adoption
FSR VERTICAL FILE # 2679
- 2680 **FARMING SYSTEMS DATA AND ON-FARM TRIALS OF BEANS (PHASEOLUS VULGARIS): MGETA AND KILOSA AREAS, TANZANIA, 1985.** Due, J.M. (1986) Morogoro, Tanzania: Sokoine Univ. of Agriculture, Dept. of Rural Economy, and Univ. of Illinois at Urbana-Champaign, Dept. of Agricultural Economics. (Technical Report No.5; Sponsored by USAID through a Title XII Bean CRSP between Washington State Univ. and Sokoine Univ. of Agriculture) 97p. KEYWORDS: Africa, Tanzania, beans, phaseolus vulgaris, on-farm trials, economic analysis, pests, diseases, seeds, soils, precipitation, households, cropping patterns, food preferences
FSR VERTICAL FILE # 2680
- 2681 **FARMING SYSTEM OF LOWLAND MACHAKOS DISTRICT, KENYA.** (Report on Farm Survey Results from Mwala Location) Rukandema, M. (1981) Machakos, Kenya: Ministry of Agriculture, Dryland Farming Research and Development Project. (Technical Report No. 1; Farming Systems Economics Research Program; UNDP/FAO/GK Dryland Farming Research and Development Project (KEN/74/017)) 38p. KEYWORDS: Africa, East Africa, Kenya, arid regions, semiarid zones, surveys, land tenure, farm size, labor, resource use, cropping patterns, crop husbandry, livestock management, food supply, food preferences, subsistence farming, income
FSR VERTICAL FILE # 2681
- 2682 **FARMING SYSTEMS OF SEMI-ARID LOWER EMBU, EASTERN KENYA.** Rukandema, M. (1983) Machakos, Kenya: Ministry of Agriculture, Dryland Farming Research and Development Project. (Project Field Document No.4; Farming Systems Economics Research Program; Dryland Farming Research and Development Project (UNDP/FAO/KEN/74/017)) 35p. KEYWORDS: Africa, East Africa, Kenya, arid regions, semiarid zones, surveys, land tenure, farm size, labor, resource use, cropping patterns, crop husbandry, livestock management, education, food crops, beans, pigeon peas, cowpeas, sorghum, millets, animal production, mixed farming
FSR VERTICAL FILE # 2682

- 2683 **FARMING SYSTEMS OF SEMI-ARID SOUTHERN KITUI, EASTERN KENYA.** Rukandema, M. (1983) Machakos, Kenya: Ministry of Agriculture, Dryland Farming Research and Development Project. (Project Field Document No.3; Farming Systems Economics Research Program; Dryland Farming Research and Development Project (UNDP/FAO/KEN/74/017)) 35p. KEYWORDS: Africa, East Africa, Kenya, arid regions, semiarid zones, surveys, land tenure, farm size, labor, resource use, cropping patterns, crop husbandry, livestock management, education, food crops, beans, pigeon peas, cowpeas, sorghum, cassava, millets, animal production, mixed farming FSR VERTICAL FILE # 2683
- 2684 **INDEX TO LIVESTOCK LITERATURE MICROFICED BY THE ILCA/IDRC TEAM IN ZIMBABWE.** Berhane, T. (comp.) (1986) Addis Ababa, Ethiopia: International Livestock Centre for Africa (ILCA). (IDRC MP/RH 1542/83) 235p. KEYWORDS: Africa, Zimbabwe, ILCA, IDRC, indexes, bibliographies, livestock, research centers, databases KSUL # Z5074.L7 I57 1986b
- 2685 **INDEX TO LIVESTOCK LITERATURE MICROFICED BY THE ILCA/IDRC TEAM IN THE GAMBIA.** Berhane, T. (comp.) (1987) Addis Ababa, Ethiopia: International Livestock Centre for Africa (ILCA). (IDRC- MP/GM- 0230/86) 41p. KEYWORDS: Africa, Gambia, ILCA, IDRC, indexes, bibliographies, livestock, research centers, databases KSUL # Z5074.L7 T467 1987
- 2686 **INDEX TO LIVESTOCK LITERATURE MICROFICED BY THE ILCA/IDRC TEAM IN KENYA.** Berhane, T. (comp.) (1988) Addis Ababa, Ethiopia: International Livestock Centre for Africa (ILCA). (IDRC- MP/KE- 1794/84) p. KEYWORDS: Africa, Kenya, ILCA, IDRC, indexes, bibliographies, livestock, research centers, databases KSUL # Z5074.L7 T468 1988
- 2687 **PROMOTING SMALLHOLDER CROPPING SYSTEMS IN SIERRA LEONE: AN ASSESSMENT OF TRADITIONAL CROPPING SYSTEMS AND RECOMMENDATIONS FOR THE BO-PUJEHUN RURAL DEVELOPMENT PROJECT.** Engel, A.E. (1984) Berlin: Seminar für Landwirtschaftliche Entwicklung, Institut für Socialökonomie der Agrarentwicklung, Technische Universität Berlin. (Schriftenreihe des Fachbereichs; Fachbereich Internationale Agrarentwicklung, No.IV/86) 227p. KEYWORDS: Africa, Sierra Leone, cropping systems, evaluation, recommendations, rural development KSUL # HD2146.5 .P76
- 2688 **SURVEY OF THE SMALL SCALE FARMING SYSTEM IN MTUKANIO AREA, NJORO DIVISION, NAKURU DISTRICT, KENYA.** (Paper originally presented at Conference on Farming Systems, Egerton University College, Njoro, Kenya, Aug. 19-23, 1985) Egerton College. (1986) Njoro, Kenya: Egerton Univ. College. (Research Paper Series No.5, May 1986) 20p. KEYWORDS: Africa, East Africa, Kenya, crop production, food crops, beans, tubers, vegetables, livestock, cropping patterns, mixed farming FSR VERTICAL FILE # 2688

- 2689 **TANZANIA FARMING SYSTEMS PROJECT: FINAL REPORT.** Lev, L.S. (1986) Corvallis, Ore.: Oregon State University, Office of International Agriculture. (Contract No.AFR-0156-C-00-3033-00; Project Publication No.135; Dec. 1986) 16p. KEYWORDS: Africa, Tanzania, programs and projects, reports
FSR VERTICAL FILE # 2689
- 2690 **VILLAGIZATION AND THE CRISIS: AGRICULTURAL PRODUCTION IN HANANG DISTRICT, NORTHERN TANZANIA.** Kjærby, F. (1989) Copenhagen: Centre for Development Research. (CDR Project Papers, No.89.2, June 1989) 100p. KEYWORDS: Africa, Tanzania, intensive husbandry, demography, agro-ecological zones, villages, history, tsetse fly, mechanization, land tenure, land use, price policy, marketing, agricultural production, resource control, oxen
FSR VERTICAL FILE # 2690
- CROPPING PATTERNS**
- 2691 **BARLEY, CORN, HARD WHEAT, AND SOFT WHEAT FIELD SIZES IN THE ABDA REGION.** Rafsnider, G. (1986) Lincoln, Nebr.: MidAmerica International Agricultural Consortium. (MIAC Agric. Econ. Info. Rpt. No. 3) 3p. KEYWORDS: Africa, Morocco, barley, maize, hard wheat, wheat, field sizes, enterprise budgets, data
FSR VERTICAL FILE # 2691
- 2692 **BEANS IN THE FARMING SYSTEMS IN TWO REGIONS OF TANZANIA, 1980-82.** Due, J.M. (1985) Morogoro, Tanzania: Sokoine Univ. of Agriculture, Dept. of Rural Economy, and Univ. of Illinois at Urbana-Champaign, Dept. of Agricultural Economics. (Technical Report No.4; Submitted to Dr. Matt Silbernagel, Principal Investigator, Bean/Cowpea CRSP, Tanzania) 62p. KEYWORDS: Africa, Tanzania, food crops, beans, economic analysis, credit, labor, seeds, yields, food consumption, postharvest systems, income, nutrition
FSR VERTICAL FILE # 2692
- 2693 **METHODOLOGIE DE RECHERCHE-DEVELOPPEMENT EN AGRICULTURE.** Trebuil, G. (1982) Songkla, Thailand: Universite Prince de Songkla. (Projet de recherches sur les systemes de production agricole) 19p. KEYWORDS: research methodology, development theory, foundations, research development objectives, labor, production systems, rotations, cultivation
FSR VERTICAL FILE # 2693
- 2694 **PRE-HARVEST BARLEY, HARD WHEAT, AND SOFT WHEAT PRODUCTION PRACTICES USED BY FARMERS HIRING CUSTOM TRACTOR SERVICES.** Hamida, M. (1986) Lincoln, Nebr.: MidAmerica International Agricultural Consortium. (MIAC Agric. Econ. Info. Rpt. No. 4) 5p. KEYWORDS: Africa, Morocco, tractors, cereals, barley, maize, hard wheat, wheat, enterprise budgets, crop production, pre-harvest operations, tillage, data
FSR VERTICAL FILE # 2694

2695 **PROGRAM - RESEARCH AND DEVELOPMENT - VEGETABLES IN MAURITANIA.** Hamidou, S. [1985?] Kaédi, Mauritania: S. Hamidou; CNRADA. 6p. KEYWORDS: Africa, Mauritania, truck farming, vegetables, experimental stations, on-farm testing, intercropping, irrigated farming, seasonality, marketing, seeds, problem identification, crop rotations, constraints
FSR VERTICAL FILE # 2695

POLY CULTURE

2696 **COMPETITION FOR RADIATION AND OTHER GROWTH RESOURCES IN MULTIPLE CROPPING SYSTEMS.** Francis, C. (1988) Animal and Plant Sciences (Vol.1 no.1 p.105-09) 5p. KEYWORDS: cropping systems, multiple cropping, intercropping, polyculture, solar radiation, sustainability, plant competition, resource utilization, nutrients, water use FSR VERTICAL FILE # 2696

2697 **FARMING SYSTEMS ECONOMICS: FITTING RESEARCH TO FARMERS CONDITIONS.** (Paper presented at the Second Symposium on Intercropping in Semi-Arid Areas, University of Dar-es-Salaam, Tanzania, August 1980) Gathee, J.W. (1980) Thika, Kenya: J.W. Gathee, Grain Legume Project, National Horticultural Research Station. 10p. KEYWORDS: Africa, East Africa, Kenya, semiarid zones, intercropping, maize, beans, recommendations, economic analysis, socioeconomic constraints FSR VERTICAL FILE # 2697

2698 **INTERCROPPING IN TROPICAL SMALLHOLDER AGRICULTURE WITH SPECIAL REFERENCE TO WEST AFRICA.** (2nd ed.) Steiner, K.G. (1984) Eschborn, W. Germany: Deutsche Gesellschaft für Technische Zusammenarbeit. (AID Doc. No. 080-PN-AAT-797) 304p. KEYWORDS: Africa, West Africa, tropics, intercropping, small farms, cropping systems, multiple cropping, agricultural production, constraints, food production, cassava, plantains, yams, rice, sorghum, millets, maize, environmental factors, polyculture, agronomy, yields, hybrids, soil fertility, fertilizers, pest management, weed control, plant diseases, problem identification, planning of research, land use, socioeconomic analysis, objectives, extension, methodology
KSUL S603.5 .S7 1984

FALLOWING AND COVER CROPPING. TILLAGE SYSTEMS

2699 **EVALUATION OF PRELIMINARY FARMING SYSTEMS TECHNOLOGIES: ZERO-TILLAGE SYSTEMS IN WEST AFRICA.** Knipscheer, H.C. (1983) Agricultural Systems (Vol.11 p.95-103, 1983) 9p. KEYWORDS: Africa, West Africa, appropriate technology, technology development, evaluation, legumes, leuceana, maize, alley farming, minimum tillage systems KSUL S3 .A45

CROP ROTATIONS

- 2700 **SUMMER CROPS IN SYRIA.** IN: Studies of Farming Systems in Syria, 1977-79 Harvey, J. (1980) Norwich, England: ICARDA Farming Systems Research Programme, Overseas Development Group, Univ. of East Anglia. (Complementary to Vol.2, Farming Systems in Six Aleppo and Two Hama Villages) 36p. KEYWORDS: Asia, Middle East, Syria, farming systems research, FSR, crop production, watermelon, sesame, musk melon, agricultural zones, soil types S471.S95 H37 1980

SHIFTING CULTIVATION

- 2701 **CROPPING SYSTEMS AND ROTATIONS DEVELOPMENT FOR IMPROVING SHIFTING CULTIVATION AND RELATED INTERMITTENT PRODUCTION SYSTEMS IN TROPICAL AFRICA.** Okigbo, B.N. (1984) FAO Soils Bulletin (Vol.53 p.121-40, 1984) 20p. KEYWORDS: Africa, tropics, shifting cultivation, cropping systems, rotations, traditional farming, alley farming
FSR VERTICAL FILE # 2701

PLANTATIONS AND AGRO-SILVICULTURE

- 2702 **ALLEY SHRUBS IN A HIGH-ALTITUDE, SEMI-ARID ENVIRONMENT.** Balasubramanian, V. (1989) IITA Research Briefs (Vol.9 no.1, p.3, Mar. 1989; abstracted in Heifer Project Exchange, No.50 p.4, Sep./Oct. 1989) 1p. KEYWORDS: Africa, Rwanda, semiarid zones, woody plants, alley farming, shrubs, biomass, byproducts, fuelwood, hedges, altitude, agroforestry FSR VERTICAL FILE # 2702
- 2703 **OPPORTUNITIES AND CONSTRAINTS OF SMALL SCALE FARMS TO ADOPT AGROFORESTRY METHODS IN THE WESTERN USAMBARAS OF TANZANIA.** Baum, E. (1984) Der Tropenlandwirt. Zeitschrift für die Landwirtschaft in den Tropen und Subtropen (p.67-76, Apr. 1984) 10p. KEYWORDS: Africa, Tanzania, small farms, agroforestry, erosion, soil conservation, constraints, land use, livestock farming FSR VERTICAL FILE # 2703
- 2704 **PROMOTING THE "FERTILIZER BUSH" AMONG NIGERIAN FARMERS.** Cashman, K. (1988) VITA News (p.7-10, July/Oct. 1988; to locate at KSU see Johnson, "Skits, Extension Agents...") KEYWORDS: Africa, Nigeria, alley farming, participation, agroforestry, fertilization, soil fertility, cropping systems
KSUL # HC60 .V57

- 2705 **PROMOTION OF TREE PLANTING ON SMALL FARMS IN THE AREA OF ACOSTA-PURISCAL, COSTA RICA.** (Prepared for the planning workshop "Planting Trees With Small Farmers," organized by the Pan American Development Foundation (PADF), Port-au-Prince, Haiti, Aug. 1985) Beer, J. (1985). Turrialba, Costa Rica: J. Beer, Centro Agronómico Tropical de Investigación y Enseñanza (CATIE). 9p. KEYWORDS: Latin America, Central America, Costa Rica, agroforestry, fruit trees, tree cropping, constraints, timber production, afforestation, demonstrations, objectives FSR VERTICAL FILE # 2705
- 2706 **ROLE OF FORESTRY IN DRY AFRICA.** Journal of Forestry Harou, P.A. (1985) (p.142-47, Mar. 1985) KEYWORDS: Africa, Sahel, Sudan, arid regions, forestry, deforestation FSR VERTICAL FILE # 2706; KSUL # SD1 .S63
- 2707 **USE OF ETHNOECOLOGY IN AGROFORESTRY SYSTEMS RESEARCH: AN EXAMPLE OF AF TECHNOLOGY AND PEST MANAGEMENT RESEARCH IN KENYA.** (Paper presented at the Farming Systems Research and Extension Symposium, University of Arkansas, Fayetteville, Arkansas, Oct. 18-21, 1987 Rocheleau, D. (1987) [Nairobi: D. Rocheleau, International Center for Research in Agroforestry (ICRAF)]. 50p. KEYWORDS: Africa, East Africa, Kenya, agroforestry, case studies, appropriate technology, pest management, indigenous knowledge systems, ethnic groups, land use, traditional farming, ecology, cultural ecology, anthropology FSR VERTICAL FILE # 2707

ANIMAL SYSTEMS

- 2708 **ADAPTATIONS OF FARMING SYSTEMS RESEARCH TO THE STUDY OF PASTORAL PRODUCTION SYSTEMS: THE NIGER RANGE AND LIVESTOCK PROJECT.** IN: Social Sciences and Farming Systems Research: Methodological Perspectives on Agricultural Development. J.R. Jones and B.S. Wallace, eds. Curry, J.J., Jr. (1986) Boulder, Colo.: Westview Press. (Westview Special Studies in Agriculture Science and Policy; p.195-220) 26p. KEYWORDS: Africa, West Africa, Niger, livestock production, animal husbandry, pastoralism KSUL # S494.5.S95 S6 1986
- 2709 **CHARACTERISATION OF KENANA CATTLE AT UM BANEIN, SUDAN.** Saeed, A.M. (1987) Addis Ababa, Ethiopia: International Livestock Centre for Africa (ILCA). (ILCA Research Report No. 16, May 1987) 46p. KEYWORDS: Africa, Sudan, ILCA, livestock, cattle, Kenana cattle, reproduction, growth, lactation, milk, mortality, cattle management KSUL # SF199.K45 I57 1987

- 2710 **FARMING SYSTEMS IN SIX ALEPPO AND TWO HAMA VILLAGES.** IN: Studies of Farming Systems in Syria, 1977-79 Harvey, J. (1980) Norwich, England: ICARDA Farming Systems Research Programme, Overseas Development Group, Univ. of East Anglia. (Vol.2; originally produced as an ICARDA Internal Document: Research Report No. 2, Sections 3 and 4; see also: Harvey, J., "Post-harvest Processing of Winter Crops in NW Syria") 346p. **KEYWORDS:** Asia, Middle East, Syria, farming systems research, FSR, comparative analysis, crop production, agricultural productivity, agricultural planning, rotations, commodity system analysis, labor, livestock, sheep, cash flow analysis, wheat, barley, lentils, vetch KSUL # S471.S95 S78 1984
- 2711 **GETTING MARKETING INTO FARMING SYSTEMS RESEARCH: A CASE STUDY FROM WESTERN SUDAN.** IN: Social Sciences and Farming Systems Research: Methodological Perspectives on Agricultural Development. J.R. Jones and B.S. Wallace, eds. Reeves, E.B. (1986) Boulder, Colo.: Westview Press. (Westview Special Studies in Agriculture Science and Policy; p.99-121) 23p. **KEYWORDS:** Africa, Sudan, methodology, agricultural economics, marketing, technology analysis, target selection, economic analysis, recommendation domains, market prices, surveys, prices, evaluation, anthropology KSUL # S494.5.S95 S6 1986
- 2712 **INDEX DES DOCUMENTS MICROFICHÉS PAR L'ÉQUIPE CIPEA/CRDI AU NIGER.** Gasana, O.N. (comp.) (1987) Addis Ababa: Centre International Pour l'Élevage en Afrique. 149p. **KEYWORDS:** Africa, Niger, livestock, bibliographies, animal husbandry KSUL # Z5074.L7 G36 1987
- 2713 **LIVESTOCK PRODUCTION IN ABDA (MOROCCO).** Primov, G. (1987) Settat, Morocco: Institut National de la Recherche Agronomique. (Morocco Dryland Agriculture Applied Research Program under USAID Project No. 608-0136, INRA-MIAC, Programmed Aridoculture) 12p. **KEYWORDS:** Africa, Morocco, livestock production, surveys, cattle, sheep, small ruminants, livestock diet, livestock health, livestock, production constraints, crops FSR VERTICAL FILE # 2713
- 2714 **MARGINAL AND STEPPE LIVESTOCK FARMING SYSTEMS IN ALEPPO PROVINCE.** IN: Studies of Farming Systems in Syria, 1977-79. Martin, A. (1980) Norwich, England: ICARDA Farming Systems Research Programme, Overseas Development Group, Univ. of East Anglia: (Vol.3; originally produced as an ICARDA Internal Document: Research Report No. 2, Section 6). 66p. **KEYWORDS:** Asia, Middle East, Syria, farming systems research, FSR, livestock, sheep, crop production, cropping patterns, agricultural productivity, livestock feeding, metabolizable energy, feeding habits KSUL # S471.S95 S78 1984

- 2715 **PRODUCTION RATIONALES: THE COMMERCIALIZATION OF SUBSISTENCE PASTORALISM.** Behnke, R.H. [1983?] s.l.: s.n.. 33p. KEYWORDS: Africa, East Africa, Libya, Somalia, Botswana, Finland, pastoralism, commercial farming, subsistence farming, livestock, history, labor, ranching, changes, land tenure, animal husbandry, demography, reindeer, sheep, goats, camels, cattle, productivity, economic analysis, range management, domestication, herd size, programs and projects
FSR VERTICAL FILE # 2715
- 2716 **UNDERSTANDING EAST AFRICAN PASTORALISM AN ECOSYSTEMS APPROACH.** IN: The Keeping of Animals: Adaption and Social Relations in Livestock Producing Communities. R. Berleant-Schiller and E. Shanklin, ed. Dyson-Hudson, R. (1983) Totowa, N.J.: Allenheld Osmun and Co.. (p.1-36) 36p. KEYWORDS: Africa, East Africa, pastoralism, agroecosystems, livestock
KSUL # HT421 .K43 1983
- 2717 **WORKSHOP ON DEVELOPMENT AND AFRICAN PASTORAL LIVESTOCK PRODUCTION.** Little, P.D. (1982) Binghamton, N.Y.: Institute for Development Anthropology. (Submitted to USAID; Contract No.AFR-0085-C-00-1033 19p. KEYWORDS: Africa, livestock production, pastoralism, institutions, policy, research, institution building, farmers' associations, programs and projects, land tenure
FSR VERTICAL FILE # 2717
- MIXED SYSTEMS**
- 2718 **ANIMAL TRACTION IN SUBSAHARAN AFRICA.** Anonymous (1981) ILCA Bulletin (No.14 p.2-17, Dec. 1981) KEYWORDS: Africa, animal traction, draught animals, environmental factors, constraints, feed requirements, socioeconomic constraints, productivity
KSUL # SF15.A25 I11
- 2719 **ANIMAL TRACTION IN AFRICA.** Munzinger, P., (comp.) (1982) Eschborn, Germany: German Agency for Technical Cooperation. (Translated by H. Burgess) 490p. KEYWORDS: Africa, Cameroon, Mali, Madagascar, Ghana, animal traction, animal husbandry, harnesses, oxen
KSUL # SF180 .H3613 1982
- 2720 **COWPEAS: THE PERFECT LISA CROP FOR LAMBS.** Swartz, H. (1990) Sheep! Magazine (p.29, June 1990) KEYWORDS: sustainability, cowpeas, legumes, feed crops, sheep
FSR VERTICAL FILE # 2720
- 2721 **DRAUGHT POWER AND SMALLHOLDER GRAIN PRODUCTION IN THE ETHIOPIAN HIGHLANDS.** Gryseels, G. (1986) ILCA Newsletter (Vol.5 no.4 p.5-7, Oct. 1986) KEYWORDS: Africa, Ethiopia, ILCA, small farms, draught animals, animal traction, crop production, cereals, oxen, surveys
FSR VERTICAL FILE # 2721

- 2722 **DRAUGHT ANIMAL MANAGEMENT FOR EARLY PLOUGHING.** Koch, B. (1986) Draught Animal News (No.5 p.16-19) 4p. KEYWORDS: Africa, Botswana, ATIP, draught animals, mixed farming, feeding KSUL # SF180 .D72; FSR VERTICAL FILE # 2722
- 2723 **ECONOMIC ANALYSIS OF THE ROLE OF OX-PLOWING AND CATTLE-FEEDING IN THE STRATIFICATION OF WEST AFRICAN LIVESTOCK PRODUCTION.** Sleeper, J.A. (1979) (M.S. Thesis, University of Maryland) Ann Arbor, Mich.: Univ. of Michigan, Center for Research on Economic Development. (Livestock Production and Marketing in the Entente States of West Africa; Working Paper No.4; USAID Contract No.AID/afr-c-1169) 160p. KEYWORDS: Africa, West Africa, Sahel, Sudan, oxen, cattle, plowing, livestock production, stratification, economic analysis, grazing, crop production, fodder crops, pastures, animal traction, mixed farming, conservation, feeding, forestry, desertification, meat, yields, animal manures, intensive husbandry, small farms, technology transfers, income, problem identification, constraints, innovation adoption, integrated systems, appropriate technology, climatic factors FSR VERTICAL FILE # 2723
- 2724 **FARMING SYSTEMS RESEARCH AND EXTENSION: INTRODUCING OXEN CULTIVATION IN ZAIRIAN FARMING SYSTEMS.** Lianabo, S. (1986) (M.S. Thesis) Athens, Ga.: Univ. of Georgia. 119p. KEYWORDS: Africa, Central Africa, Zaire, temperate zones, oxen, draught animals, animal power, mixed farming, budget analysis, risk analysis, agricultural economics, technology transfers KSUL # S473.Z28 L53 1986a
- 2725 **IMPROVED INTEGRATION OF LEGUME CROPS INTO THE AGRO-PASTORAL SYSTEM OF THE NUBA MOUNTAINS, SUDAN.** Bunderson, W.T. (1985) (Paper submitted to the Fifth Annual Farming Systems Research and Extension Symposium, Kansas State University, Manhattan, Kansas, Oct. 13-16,1985) (Khartoum, Sudan: Western Sudan Agricultural Research Project (WSARP) & Agricultural Research Corporation) 27p. KEYWORDS: Africa, Sudan, semiarid zones, mixed farming, legumes, diet, cash crops, constraints, cropping systems, intercropping, animal husbandry, food shortages, land use, planning of research, economic analysis, livestock, on-farm trials, forage, animal production, problem identification FSR VERTICAL FILE # 2725
- 2726 **LIVESTOCK ECONOMY IN EGYPT: AN APPRAISAL OF THE CURRENT SITUATION.** Fitch, J. (1981) Davis, Calif.: Agricultural Development Systems: Egypt Project, Univ. of California. (Economics Working Paper Series, no.29) 41p. KEYWORDS: Africa, Egypt, livestock production, livestock planning, irrigated farming, mechanization, feedstuffs, policy, livestock sector, data evaluation, tenure systems, production trends, technological improvements FSR VERTICAL FILE # 2726

- 2727 **LIVESTOCK PRODUCTION IN CENTRAL MALI: THE 'MOUTON DE CASE' SYSTEM OF SMALLHOLDER SHEEP FATTENING.** Kolff, H.E. (1985) Agricultural Systems (Vol.16 p.217-230, USAID Doc. No. PN-AAT-644) KEYWORDS: Africa, West Africa, Mali, semiarid zones, livestock, sheep, animal husbandry, feeding, diet, animal protein, value systems, rice, millets, mixed farming, socioeconomic status, constraints KSUL # S3 .A45
- 2728 **MARKET FORCES AND LIVESTOCK DEVELOPMENT IN AFRICA: PART II: INTENSIVE PRODUCTION.** Anonymous (1982) (Draft) Ann Arbor, Mich.: Univ. of Michigan, Center for Research on Economic Development. 29p. KEYWORDS: Africa, West Africa, Sahel, intensive production, objectives, rangeland, income, livestock, meat, feedlots, migration, exports, animal traction, feeding, cattle, small ruminants, seasonality, animal manures, oxen, feed supply, problem identification, programs and projects, marketing, stratification FSR VERTICAL FILE # 2728
- 2729 **NOTE ON SELECTED EFFECTS OF ALTERNATIVE TECHNOLOGIES ON FARMING IN THE SALOUM AREA OF SENEGAL.** Versel, M. (1980) (Paper presented for a Workshop on Sahelian Agriculture, West Lafayette, Ind., Purdue University, Department of Agricultural Economics, May 1980) s.l.: s.n. 9p. KEYWORDS: Africa, Senegal, Sahel, USAID, groundnuts, millets, animal traction, alternative technology, planting methods, intensive farming, traditional farming, fertilizers FSR VERTICAL FILE # 2729
- 2730 **ROLE FOR SMALL RUMINANTS IN SUSTAINABLE CROPPING SYSTEMS IN THE HUMID ZONE OF WEST AFRICA.** Sumberg, J.E. (1982) (Paper prepared for the Conference on Land Clearing and Development in the Tropics, International Institute for Tropical Agriculture, Ibadan, Nigeria, Nov. 23-26, 1982) Ibadan, Nigeria: Small Ruminant Programme, International Livestock Centre for Africa (ILCA). 11p. KEYWORDS: Africa, West Africa, humid zones, ruminants, small ruminants, cropping systems, sustainability, alley farming, crop production, animal production, livestock feeding, grazing, sheep, goats, mixed farming FSR VERTICAL FILE # 2730
- 2731 **SUMMARY REPORT OF A TOGO NETWORKSHOP: ANIMAL TRACTION IN A FARMING SYSTEMS PERSPECTIVE.** Poats, S. (1985) (FSSP Networkshop, Lama-bra, Togo, Mar. 4-8, 1985) Gainesville, Fla.: Univ. of Florida, Institute of Food and Agricultural Sciences. 18p. KEYWORDS: Africa, West Africa, FSSP, animal traction, technology transfers, mixed farming, appropriate technology, programs and projects, diffusion of information, baseline data, surveys, solution design, training, planning of research, cattle, animal feeding, innovation adoption, methodology, tillage, livestock, soil fertility, evaluation, weeding, extension, on-farm testing FSR VERTICAL FILE # 2731

AQUACULTURE AND AGRICULTURE

- 2732 **ECONOMICS OF TILAPIA CULTURE IN KASAI OCCIDENTAL, ZAIRE.** Low, J.W. (1985) Ithaca, N.Y.: Cornell University, Department of Agricultural Economics. (Cornell International Agriculture Mimeograph 109) 43p. KEYWORDS: Africa, Zaire, fish culture, fish farming, USAID, economic analysis, food production, tilapia, aquaculture, households, income, extension, protein, labor, feeding, waste utilization, appropriate technology, innovation adoption, programs and projects
FSR VERTICAL FILE # 2732

PHYSICAL AND BIOLOGICAL FACTORS

- 2733 **AGRICULTURAL DEVELOPMENT INDICATORS.** Winrock International. (1987) Morrilton, Ark.: Winrock International Institute for Agricultural Development. (pamphlet; Statistical Comparisons of 138 Developing Countries) 12p. KEYWORDS: agricultural development, statistics FSR VERTICAL FILE # 2733
- 2734 **ARIDOCULTURE PROGRAM: ANNUAL RESEARCH REPORT, 1986-87.** (1987?) Institut de la Recherche Agronomique: Settat, Morocco. (Aridoculture program, INRA-MIAC, USAID Project No. 608-0136) 77p. KEYWORDS: Africa, Morocco, farm size, tractors, cereals, legumes, operating costs, crop production, agricultural economics, cereal breeding, semiarid zones, arid regions, resistance genes, plant pathology, sociology, methodology KSUL # S612.55.M8 A75 1987
- 2735 **ARIDOCULTURE PROGRAM: ANNUAL RESEARCH REPORT, 1985-86.** (1986?) Institut National de la Recherche Agronomique: Settat, Morocco (Aridoculture Program, INRA/MIAC, USAID Project No. 608-0136) 320p. KEYWORDS: Africa, North Africa, Morocco, dry farming, insect pests, Hessian fly, wheat, cereals, plant diseases, fertilizers, water management, weed control, tillage systems, mechanization, forage crops, range, management, legumes, crop production, livestock production, agricultural economics, plant breeding, semiarid zones, and regions, resistance genes, plant pathology KSUL # S612.55.M8 A75 1986
- 2736 **BACK TO EDEN.** Eisenberg, E. (1989) The Atlantic (Vol.264 no.5 p.57-89) KEYWORDS: USA, Kansas, sustainability, alternative farming, prairies, prairies-native, prairies--domestic, grasses, Land Institute, environment, plant genetics, genetic diversity, feral varieties, no-tillage systems, soil management, cultivation
KSUL # AP2 .A8; FSR VERTICAL FILE # 2736
- 2737 **CIAT AND SUSTAINABLE AGRICULTURAL PRODUCTION.** Anonymous (1989) CIAT International (Vol.8 no.1 p.3-5) KEYWORDS: sustainability, agroecosystems, pastures, savanna, beans FSR VERTICAL FILE # 2737

- 2738 **DEVELOPMENT PROJECTS FOR THE SMALL FARMER: LESSONS FROM EASTERN AND CENTRAL AFRICA IN ADAPTING CONSERVATION.** Stocking, M, (1985) Soil Erosion and Conservation. S.A. El-Swaify, W.C. Moldenhauer, and A. Lo, eds. Ankeny, Iowa: Soil Conservation Society of America. (p.747-758) **KEYWORDS:** Africa, East Africa, Central Africa, Zambia, Tanzania, programs and projects, small farmers, environmental factors, soil erosion, soil conservation, cattle, intercropping, polyculture KSUL # S622.2 .S65 1985
- 2739 **DRYLAND FARMING APPLIED RESEARCH PROJECT.** (1986) s.l.: Institut national de la recherche agricole (INRA) & MidAmerica International Agricultural Consortium (MIAC). (Scientific Review Panel Report, USAID Project No.608-0136 41p. **KEYWORDS:** Africa, North Africa, Morocco, arid regions, dry farming, problem identification, technology analysis, agronomy, cereal agronomy, soil fertility, weed science, entomology, plant pathology, forage agronomy, food legumes, cereal breeding, agricultural engineering, socioeconomic conditions FSR VERTICAL FILE # 2739
- 2740 **DRYLAND FARMING APPLIED RESEARCH PROJECT.** (1988) Settati, Morocco: Institut National de la Recherche Agricole (INRA) Centre Regional de la Recherche Agronomique & MidAmerica International Agricultural Consortium (MIAC). (Scientific Review Panel Report, USAID Project No.608-0136) 41p. **KEYWORDS:** Africa, North Africa, Morocco, and regions, dry farming, problem identification, technology analysis, plant pathology, cereal breeding, agricultural economics, socioeconomic conditions FSR VERTICAL FILE # 2740
- 2741 **DRYLAND FARMING APPLIED RESEARCH PROJECT: INTEGRATED PLAN OF WORK** (Projet Aridoculture) (1986?) Settati, Morocco: MidAmerica International Agricultural Consortium. (An INRA-MIAC project; USAID Project No. 608-0136) 307p. **KEYWORDS:** Africa, North Africa, Morocco, dry farming, project design, work plans, cereal breeding, food legumes, forage agronomy, soil fertility, soil management, entomology, training, institution building, technology transfers
NOT OWNED BY KSUL
- 2742 **FARMING SYSTEMS RESEARCH PROGRAM: BACKGROUND TO STUDIES IN ALEPPO PROVINCE.** (1980) Aleppo, Syria: International Center for Agricultural Research in the Dry Areas (ICARDA). (Internal Document, Research Report No.2, Section 2 of 7) 36p. **KEYWORDS:** Asia, Middle East, Syria, farming systems research, FSR, environment, agroclimatology FSR VERTICAL FILE # 2742
- 2743 **FARMING SYSTEMS RESEARCH PROGRAM: REVIEW, DISCUSSION AND RECOMMENDATION.** (1980) Aleppo, Syria: International Center for Agricultural Research in the Dry Areas (ICARDA). (Internal Document, Research Report No.2, Section 7 of 7) 28p. **KEYWORDS:** Asia, Middle East, Syria, FSR, environment, natural resources, farm inputs, agricultural productivity
FSR VERTICAL FILE # 2743

- 2744 **INDEX OF SUSTAINABLE AGRICULTURE PERIODICALS.** International Ag-Sieve (1989) (Vol.2 no.3 p.1-7) KEYWORDS: indexes, periodicals, sustainability, organic farming FSR VERTICAL FILE # 2744
- 2745 **KENYA DRYLANDS CROPPING SYSTEMS RESEARCH PROJECT.** (1979) Washington: U.S. Agency for International Development (USAID). (Project Paper; USAID Project No.615-0180) 125p. KEYWORDS: Africa, East Africa, Kenya, semiarid zones, programs and projects, project proposals, appropriate technology, recommendations, technology transfers, cropping systems NOT OWNED BY KSUL
- 2746 **OAU/STRC JOINT PROJECT 31: IITA/SAFGRAD FINAL REPORT, PHASE 1.** Rodriguez, M. (1986) Ouagadougou, Burkina Faso: International Institute of Tropical Agriculture (IITA). (USAID Doc. No.PD-AAU-169; Funded by USAID and IDRC) 42p. KEYWORDS: Africa, West Africa, Burkina Faso, Guinea, Sudan, semiarid tropics, savanna, maize, cowpeas, drought resistance, disease resistance, variety trials, varieties, soil fertility, fertilizers, crop rotations, tillage, crop residues, tie ridging, ditches, scarification, planting, animal traction, pest control, pest resistance, germplasm, soil management, water management, plant breeding, programs and projects, training, constraints, problem identification NOT OWNED BY KSUL
- 2747 **PAPEL DE LAS LEÑOSAS PERENNES EN LOS SISTEMAS AGROSILVOPASTORILES.** Torres, F. (1985) Turrialba, Costa Rica: Centro Agronómico Tropical de Investigación y Enseñanza (CATIE). (Originally published in Agroforestry Systems and titled: "Role of Woody Perennials in Animal Husbandry;" (Vol.1 p. 131-163, 1982) 46p. KEYWORDS: agroforestry, woody plants, animal husbandry, fuelwood, fodder crops, perennials, mixed farming, soil conservation, water conservation FSR VERTICAL FILE # 2747
- 2748 **POTENTIAL FOR REGENERATIVE AGRICULTURE IN THE DEVELOPING WORLD.** Francis, C.A. (1986) American Journal of Alternative Agriculture (Vol.1 No.2 p.65-74) KEYWORDS: sustainability, alternative farming, farming, food production, inputs, nitrogen, nutrients, diseases, weeds, yields, organic farming, pest control, integrated pest management KSUL # S605.5 .A475
- 2749 **SAHELIAN/SUDANIAN ZONES OF AFRICA: PROFILE OF A FRAGILE ENVIRONMENT.** Thomas, G.W. (1981) Las Cruces, N.M.: New Mexico State Univ., Center for International Programs. (New Mexico State Univ. International Publications Series Technical Information Publication 0001-81) 139p. KEYWORDS: Africa, Sahel, Sudanian zone, environment, natural resources, demography, food production, infrastructure, development organizations, desertification, land use, education, training, technology transfers KSUL # S616.A36 T45 1981

- 2750 **SUSTAINABLE AGRICULTURAL PRODUCTION.** York, E.T. (1989) International Agriculture Update (Univ. of Illinois at Urbana-Champaign) (Vol.4 No.4 p.1-4) KEYWORDS: sustainability, environment, policy, agricultural production
FSR VERTICAL FILE # 2750

LAND, SOILS, AND FERTILIZER

- 2751 **ECONOMIC PERFORMANCE OF EIGHT FERTILIZER COMBINATIONS FOR GRAIN AND STRAW PRODUCTION DURING THE 1984-85 CROP YEAR.** Rafsnider, G.T. (1986) (Settat, Morocco: MIAC Agricultural Economist) (MIAC Agric. Econ. Info Rpt. No. 2) 4p. KEYWORDS: Africa, North Africa, Morocco, fertilizers, economic performance, cereals, straw
FSR VERTICAL FILE # 2751
- 2752 **FERTILIZER ALLOCATION, DISTRIBUTION, AND USE IN EGYPT.** Lynch, J. (1980) 55p. KEYWORDS: North Africa, Egypt, fertilizers, policy, allocation, chemical fertilizers, precipitation, arable land, crops, nitrogen production, credit, price policy, blackmarket, soils NOT OWNED BY KSUL
- 2753 **FOOD CROP FERTILIZATION AND SOIL FERTILITY: THE IRAT EXPERIENCE.** Pieri, C. (1985) IN: Appropriate Technologies for Farmers in Semi-Arid West Africa H.W. Ohm and J.G. Nagy, eds. West Lafayette, Ind.: Purdue University. (p.74-109) KEYWORDS: Africa, West Africa, semiarid zones, IRAT, fertilization, soil fertility, food crops, yields, crop residues, nitrogen fixation, leguminosae NOT OWNED BY KSUL
- 2754 **KENYANS SHORE UP HOPES - AND TOPSOIL - WITH TERRACES.** Press, R.M. (1988) Christian Science Monitor (p.11) KEYWORDS: Africa, East Africa, Kenya, semiarid zones, erosion, soil conservation, terracing, terrace farming KSUL Newspaper Microfilm

AGROCLIMATOLOGY

- 2755 **AGROCLIMATOLOGY OF WEST AFRICA: BURKINA FASO.** Sivakumar, M.V.K. (1987) Patancheru, Andhra Pradesh, India: International Crops Research Institute for the Semi-Arid Tropics. (Information Bulletin no.23) 192p. KEYWORDS: West Africa, Burkina Faso, agroclimatology, physiology, soils, vegetation, animal husbandry, climate, data, precipitation, temperature, evapotranspiration, water balance, growing season, probability analysis KSUL # S600.64.B92 S58 1987

- 2756 **CASE STUDY OF A SUCCESSFUL SOIL MANAGEMENT RESEARCH AND EXTENSION PROJECT MOUNTED WITHIN THE SEMI-DECIDUOUS RAINFOREST ZONE OF GHANA.** Obeng, H.B. (198?) Ames, Iowa: Dept. of Agronomy, Iowa State Univ. 55p. KEYWORDS: Africa, West Africa, Ghana, soils, soil management, agroforestry, case studies, programs and projects, rainforests FSR VERTICAL FILE # 2756
- 2757 **DEPENDABLE PRECIPITATION AND POTENTIAL YIELDS FOR SENEGAL: A PRACTICAL, GUIDE FOR RAINFED AGRICULTURE.** Hargreaves, G. (1982) Washington: U.S. Agency for International Development (USAID). (USAID Doc. no. PN-AAL-110) 34p. KEYWORDS: Africa, Senegal, USAID, rain-fed farming, precipitation, growth factors, climate, climatic factors, crop research, crop production, cropping systems, methodology, yields, surveys--long term FSR VERTICAL FILE # 2757
- 2758 **FARMING SYSTEMS RESEARCH PROGRAM: PHYSICAL ENVIRONMENT AND CROP PRODUCTION.** (1980) Aleppo, Syria: International Center for Agricultural Research in the Dry Areas (ICARDA). (Internal Document, Research Report No.2, Section 5 of 7) 106p. KEYWORDS: Asia, Middle East, Syria, farming systems research, FSR, crop production, natural resources, agricultural productivity, agroclimatology FSR VERTICAL FILE # 2758
- 2759 **WHY THE POOR SUFFER MOST: DROUGHT AND THE SAHEL.** Twose, N. (1984) Oxford: Oxfam Publications Dept., (Behind the Weather Series) 20p. KEYWORDS: Africa, West Africa, Sahel, drought, famine, weather, climate, food production FSR VERTICAL FILE # 2759

WATER AND WATER MANAGEMENT

- 2760 **EVALUATION INTERIME DE DEUX PROJETS DE LA PRODUCTION AGRICOLE AU SENEGAL: L'ANALYSE ECONOMIQUE DE CULTURE IRRIGUEE ET SUR TERRAIN SEC.** Franzel, S. (1979) East Lansing, Mich.: Michigan State University, Department of Agricultural Economics. (African Rural Employment/Economy Working Paper No. 28) 66p. KEYWORDS: Africa, Senegal, arid regions, evaluation, agricultural production, economic analysis, irrigation, rain-fed farming, dry farming KSUL # HD2144.5.F72 1979

BIOLOGICAL FACTORS

- 2761 **CONSERVING THE WILD RELATIVES OF CROPS.** Hoyt, E. (1988) Rome: Food and Agriculture Organization of the U.N. (FAO), International Board for Plant Genetic Resources. 45p. KEYWORDS: genetic resources, genetic diversity, varieties, gene banks, conservation, plant genetics, food crops, feral varieties, wild plants FSR VERTICAL FILE # 2761

- 2762 **DESIGN OF A MILLET PRODUCTION/ INTEGRATED PEST MANAGEMENT PILOT PROGRAMME FOR THE GAMBIA.** (Report of a workshop held in Banjul, Gambia, April 11-20, 1984) (1984) s.l.: s.n. (Report to the Food and Agriculture Organization of the U.N. (FAO)) 48p. KEYWORDS: Africa, Gambia, programs and projects, pilot projects, project design, FAO, millets, pest control, integrated pest management, surveys, planning of research, problem identification, baseline data, insects, weed control, crop production, seeds, fertilizers, technology transfers
NOT OWNED BY KSUL
- 2763 **GLIRICIDIA SEPIUM (JACQ.) STEUD: A SELECTED BIBLIOGRAPHY.** Sumberg, J.E. (1986) Addis Ababa, Ethiopia: International Livestock Centre for Africa. 12p. KEYWORDS: bibliographies, leguminosae, gliricidia sepium, agroforestry, green manure, fuelwood, fodder crops, alley farming FSR Vertical File 2763
- 2764 **ROLE OF FODDER TREES IN LIVESTOCK PRODUCTION.** Samuel, C. (1990) Asian Livestock (Vol.15 No.1 p.1-9) KEYWORDS: agroforestry, fodder crops, livestock feeding FSR VERTICAL FILE # 2764
- 2765 **WATER CAUSED DESERT, DESERT EVERYWHERE.** Christian Science Monitor (May 19, 1988, p.10) KEYWORDS: Africa, East Africa, Kenya, water, desertification, deforestation, nomadism, environmental degradation
KSUL # AI21 .C46
- CROPS
- 2766 **AMARANTH: WILD GREENS AND ANCIENT GRAIN.** Seidel M. (1983) New Mexico Magazine (p.65-66) KEYWORDS: cereals, food crops, amaranth, amaranthus hypochondriacus, amaranthus retroflexus, feral varieties, varieties KSUL # F791 .N4
FSR VERTICAL FILE # 2766
- 2767 **ANCIENT SEEDS AGAINST MODERN HUNGER.** Basquin, S. (1985) Santa Fe Reporter (May 8, 1985, Living Section p.1) KEYWORDS: cereals, seeds, vegetables, varieties, maize, amaranth, drought resistance FSR VERTICAL FILE # 2767
- 2768 **ANCIENT, NUTRITIOUS GRAIN REDISCOVERED BY SCIENTISTS.** Brody, J.E. (1984) The New Mexican (Oct. 24, 1984; p.C-8) KEYWORDS: amaranth, cereals, nutrition, varieties, heat resistance, vegetables
FSR VERTICAL FILE # 2768

- 2769 **COLLOQUIUM ON GENETICS AND BREEDING OF SMALL GRAINS FOR SEMI-ARID CONDITIONS OF THE NORTH AMERICAN GREAT PLAINS AND MOROCCO.** Bigbee, D.E. Sr. (ed.) (1985) (Proceedings of a Colloquium held at the University of Nebraska Lincoln, Nebraska, July 11-12, 1985) Lincoln, Neb.: Univ. of Nebraska, MidAmerica International Agricultural Consortium (MIAC). (Sponsored by MAROC/INRA/MIAC Dryland Farming Research Project and UNL/IANR International Programs Division) 78p. KEYWORDS: Africa, Morocco, North America, Great Plains, semiarid zones, cereals, food grains, plant breeding, genetics, disease resistance, pest resistance, nutritional value, wheat, barley
FSR VERTICAL FILE # 2769
- 2770 **CROP IMPROVEMENT IN DEVELOPING NATIONS.** Underwood, W. (1984) Seed World (June, p.38-39) KEYWORDS: crops, improved varieties
FSR VERTICAL FILE # 2770
- 2771 **DEVELOPING COWPEA VARIETIES WITH IMPROVED YIELD UNDER CONDITIONS OF EXTREME DROUGHT AND HEAT.** Ghaderi, A. (ed.) (1984) Research Highlights: Michigan State University, Bean/Cowpea CRSP (Vol.1 no.1 p.1-4) KEYWORDS: Africa, Sahel, Senegal, semiarid zones, cowpeas, drought, ISRA, cultivars, rain-fed farming, heat resistance, variety trials, performance testing, high yielding varieties, drought resistance FSR VERTICAL FILE # 2771
- 2772 **EVALUATION DU POIS-CHICHE D'HIVER PAR DES AGRICULTEURS DE LA CHAOUIA (1986-1987).** Herzenni, A. (n.d.) s.l.: s.n. 13p. KEYWORDS: Africa, Morocco, chickpeas--winter, food preparation, fertilization, mechanization, soils, yields, chickpea variation, grain calibre, commercialization FSR VERTICAL FILE # 2772
- 2773 **FARMER MANAGEMENT OF VARIETAL BEAN MIXTURES IN CENTRAL AFRICA: IMPLICATIONS FOR A TECHNOLOGY DEVELOPMENT STRATEGY.** Voss, J. (1988?) Cali, Colombia: Centro Internacional de Agricultura Tropical (CIAT). 26p. KEYWORDS: Africa, Central Africa, beans, seed mixtures, yields, food supply, farmers' attitudes, experiment stations, plant diseases, varieties, seed selection, women in agriculture, marketing, disease resistance, consumer preferences, phaseolus vulgaris, prices, genetic variation FSR VERTICAL FILE # 2773
- 2774 **HIGH-YIELD CORN FROM ANCIENT SEED STRAINS.** Stea, V. (1985) Christian Science Monitor (Aug, 20, 1985; p.29) KEYWORDS: cereals, maize, varieties, seeds, drought resistance FSR VERTICAL FILE # 2774
- 2775 **HOW DOMESTICATED PLANTS CAME TO THE PREHISTORIC SOUTHWEST.** Tierney, G. D. (1983) El Palacio (Vol.89 No.1 p.11-17) KEYWORDS: cereals, legumes, varieties, seeds, maize, beans
KSUL # F791.P15; FSR VERTICAL FILE # 2775

- 2776 **KSU/INTSORMIL SORGHUM/MILLET AGRONOMIC RESEARCH IN NORTH KORDOFAN, SUDAN, AFRICA.** Berhe, T. (1985) Lincoln, Neb.: University of Nebraska, Institute of Agriculture and Natural Resources and International Sorghum/Millet Collaborative Research Support Program (INTSORMIL/CRSP). (Progress Report No. 7; Annual Report 1985; USAID Contract No. DSAN/XII-G-0149) 35p. KEYWORDS: Africa, Sudan, INTSORMIL, USAID, sorghum, millets, fertilizers, on-farm trials, dry farming, intercropping, seeds, sowing, legumes, germplasm, experiment stations, evaluation, recommendations, yields, technology transfers, genotypes, drought resistance FSR VERTICAL FILE # 2776
- 2777 **NEW DIMENSIONS FOR FABA BEAN RESEARCH AND PRODUCTION IN EGYPT AND SUDAN.** (A Profile of the ICARDA/IFAD Nile Valley Project) (1982) Aleppo, Syria: International Center for Agricultural Research in the Dry Areas (ICARDA). 20p. KEYWORDS: Africa, Egypt, Sudan, ICARDA, IFAD, dry farming, faba beans, constraints, on-farm trials, yields, nutrition, hybrids, water management, disease resistance, surveys, programs and projects, extension, experiment stations, seed production, objectives FSR VERTICAL FILE # 2777
- 2778 **NEW LOOK AT THE IMPORTANCE OF CULTIVARS IN COWPEA RESEARCH: EVIDENCE FROM NORTHERN CAMEROON.** Ta'ama. M.E. (1985) Research Highlights: Michigan State University Bean/Cowpea CRSP (Vol.2 no.5 p.1-4) KEYWORDS: Africa, Cameroon, semiarid zones, cowpeas, cultivars, SAFGRAD, on-farm testing, yields, disease resistance, drought resistance, variety trials, surveys FSR VERTICAL FILE # 2778
- 2779 **OLD-TIME HONEST AMARANTH IS A GOOD CROP FOR SUMMER.** Masson, W. (1984) The New York Times (May 27, 1984 p.H-29) KEYWORDS: amaranth, amaranthus tricolor, heat resistance vegetables FSR VERTICAL FILE # 2779
- 2780 **POTATOES IN CENTRAL AFRICA: A SURVEY OF BURUNDI, RWANDA AND ZAIRE.** Scott, G.J. (1988) Lima: International Potato Center (CIP). 159p. KEYWORDS: Africa, Central Africa, Burundi, Rwanda, Zaire, potatoes, crop production, food distribution and marketing KSUL # HD9235.P8 S37 1988
- 2781 **QUINUA: GRAIN OF THE INCAS.** Cusack, D.F. (1984) The Ecologist (Vol.14 No.1 p.21-31) KEYWORDS: South America, Andean region, altiplano, cereals, food crops, staple crops, quinoa, varieties, drought resistance, Chenopodium quinoa, Chenopodium palidacuale, Chenopodium nuttaliae KSUL # QH540.E295 E25
- 2782 **SEED POTATO PRODUCTION IN EAST AFRICA.** Wiersema, S.G. (1980) Lima: International Potato Center (CIP). 24p. KEYWORDS: Africa, East Africa, potatoes, seed potatoes, seed production, methodology FSR VERTICAL FILE # 2782

- 2783 **SEEDS OF WEALTH - SEEDS OF RISK? THE VULNERABILITY OF HYBRID MAIZE PRODUCTION IN THE SOUTHERN HIGHLANDS OF TANZANIA.** Friis-Hansen, E. (1989) Copenhagen: Centre for Development Research (CDR). (CDR Project Paper No.88.2) 67p. KEYWORDS: Africa, East Africa, Tanzania, maize, seeds, hybrids, varieties, sustainability, pest resistance, high yielding varieties, food crops, plant genetics, environmental degradation FSR VERTICAL FILE # 2783
- 2784 **SORGHUM IMPROVEMENT IN EASTERN AFRICA.** Gebrekidan, B. (ed.) (1982) (Proceedings of the Regional Workshop on Sorghum Improvement in Eastern Africa, Oct. 17-21, 1982, Nazreth and Debre Zeit, Ethiopia Nazreth, Ethiopia: Ethiopian Sorghum Improvement Project. 196p. KEYWORDS: Africa, Eastern Africa, Ethiopia, Rwanda, Kenya, Somalia, Sudan, Tanzania, Uganda, Yemen, Zimbabwe, sorghum, national programs and projects, plant genetics, institutions, diseases, pests, striga, nutrition, plant breeding KSUL # SB191.S7 R445 1982
- 2785 **TEPARY BEANS: A RESOURCE FOR IMPROVEMENT OF COMMON BEANS.** Webster, B.D. (1985) Research Highlights: Michigan State University Bean/Cowpea CRSP (Vol.2 No.3) KEYWORDS: Africa, East Africa, Kenya, arid regions, beans, tepary beans, phaseolus acutifolius, drought resistance, heat resistance, varieties, varietal improvement FSR VERTICAL FILE # 2785
- 2786 **TRUE POTATO SEED: A POTENTIAL ALTERNATIVE FOR POTATO PRODUCTION IN KENYA.** M'Ribu, H.K. (1986) (Paper originally presented at a research seminar at Egerton University College, Njoro, Kenya, Feb. 7, 1985) Njoro, Kenya: Egerton Univ. College. (Research Paper Series No.12, Dec. 1986) 13p. KEYWORDS: Africa, East Africa, Kenya, potatoes, seeds, crop production, food crops FSR VERTICAL FILE # 2786
- 2787 **USE OF LABLAB BEAN (DOLICHOS LABLAB) BY TRADITIONAL FARMERS IN HONDURAS.** Flores, M. (1989) Tegucigalpa, Honduras: International Cover Crop Clearinghouse 8p. KEYWORDS: Central America, Honduras, traditional farming, America, Honduras, traditional farming, beans, lablab beans, dolichos lablab, intercropping, maize, fodder crops, food crops, feed crops, legumes FSR VERTICAL FILE # 2787
- 2788 **VARIETAL TRAITS LIMITING THE GRAIN YIELD OF TROPICAL MAIZE I, II, III, IV.** Yamaguchi, J. (1974) Soil Science and Plant Nutrition (Vol. 20 nos.1-3 p.69-78 (I), p.145-54 (II), p.155-61 (111), p.287-304 (IV), 1974) KEYWORDS: Latin America, Mexico, tropics, cereals, maize, yields, growth yield relationship, growth analysis, growth factors, growth inhibitors, growth promoters, growth period, altitude, varieties, tillage FSR VERTICAL FILE # 2788

CROP PROTECTION

- 2789 **INTEGRATED PEST MANAGEMENT: RICE CROP PROTECTION IN THE PHILIPPINES WITHOUT HAZARDS FOR THE ENVIRONMENT.** Reus, J. (1990) AT Source (Vol.17 no.2 p.4-11) KEYWORDS: Asia, Pacific, Philippines, integrated pest management, pest control, environment, rice, diseases, pest resistance FSR VERTICAL FILE # 2789

FUNGI AND BACTERIA

- 2790 **ADAPTION OF THE POTATO TO THE LOWLAND TROPICS.** International Potato Center. (1975) Lima: International Potato Center (CIP). (Report of the International Potato Center Planning Conference held in association with the Sixth Triennial Conference of the European Association for Potato Research, Wageningen, Netherlands, Sep., 1975) 25p. KEYWORDS: potatoes, tropics, diseases, varieties NOT OWNED BY KSUL

ANIMALS

- 2791 **PERFORMANCE OF EXOTIC DAIRY CATTLE UNDER DIFFICULT ENVIRONMENTS.** Khan, U.N. (1990) Asian Livestock (Vol.15 No.2 p.17-23) KEYWORDS: tropics, subtropics, dairy cattle, cattle breeds, diseases FSR VERTICAL FILE # 2791
- 2792 **POULTRY WASTE IN CATTLE RATIONS.** Odhuba. E.K. (1987) East African Agricultural and Forestry Journal (Vol.52 p.16-26) KEYWORDS: Africa, East Africa, Kenya, livestock feeding, animal nutrition, ruminants, nitrogen KSUL # S17 .E2

ANIMAL PARASITES

- 2793 **EFFECT OF PPR CONTROL AND DIPPING ON VILLAGE GOAT POPULATIONS IN SOUTHWEST NIGERIA.** Reynolds, L. (1988) ILCA Bulletin (No.32 p.22-27) KEYWORDS: Africa, West Africa, Nigeria, goats, ruminants, diseases, livestock, animal health KSUL # SF15.A25 I11

HUMAN ELEMENT: EXOGENOUS FACTORS

- 2794 **ANIMATION RURALE AND RURAL DEVELOPMENT: THE EXPERIENCE OF SENEGAL.** Gellar, S. (1980) Ithaca, N.Y.: Cornell University, Center for International Studies, Rural Development Committee. (Special Series on Animation RURALE: No.2) 211p. **KEYWORDS:** Africa, Senegal, rural development, USAID, Animation RURALE, development theory, extension, development projects, development policy, analysis, case studies, social policy, history KSUL # HN829.Z9 C63
- 2795 **APPLIED AGRONOMIC RESEARCH PROGRAM FOR DRYLAND FARMING IN 200-400 MM RAINFALL, ZONE OF MOROCCO.** (1977) (Lincoln, Neb.: MidAmerica International Agricultural Consortium). (Contract No. AID/NE-C-1284, Univ. of Nebraska) 187p. **KEYWORDS:** Africa, North Africa, Morocco, arid regions, agronomy, dry farming, training, participation, evaluation, USAID, agrarian reform, institutionalization, precipitation, soil moisture, cropping patterns, soil types, extension, fertilizers, soil fertility, productivity, tillage, soil testing, forage, livestock systems, range management, forage seed production, livestock nutrition, machinery, equipment, socioeconomic conditions, rural households, land use, cereals, draught animals, animal power, tractors, marketing, price policy, credit, cooperatives, land tenure, labor supply, women, land tenancy, technology transfers KSUL # SB616.M67 M544
- 2796 **DEVELOPPEMENT ZONAL DANS LA TUNISIE CENTRALE: RAPPORT FINAL DE CONSULTATION.** Boyle, W. (1986) Worcester, Mass.: Clark University. (Cooperative Agreement on Human Settlements and Natural Resource Systems Analysis) 127p. **KEYWORDS:** Africa, Tunisia, development zones, exploitation model, socioeconomic analysis, annual production, financial planning, investment, credit, projects, environment, resources, social environment, population, living conditions, human resources, irrigation FSR VERTICAL FILE # 2796
- 2797 **FARM AND VILLAGE PRODUCTION SYSTEMS IN THE SEMI-ARID TROPICS OF WEST AFRICA: AN INTERPRETIVE REVIEW OF RESEARCH.** Norman, D.W. (1981) Patancheru, Andhra Pradesh, India: International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). 94p. **KEYWORDS:** Africa, West Africa, semiarid tropics, agricultural production, production systems, village level studies, research, economic analysis, FSR, institutions KSUL # S472.W4 N67
- 2798 **NEW APPROACH OF TACKLING ZAMBIA'S ECONOMIC ILLS - A CRITIQUE.** Mulenga, K.B. (1987) (Paper presented to Professor E.W. Nafziger as partial fulfillment of course requirements for "Economics of Underdeveloped Countries," KSU, Summer, 1987) Manhattan, Kan.: Kansas State University. 39p. **KEYWORDS:** Africa, Zambia, economic analysis, poverty, income distribution, employment, migration, population growth, rural development, infrastructure, policy, economic theories FSR VERTICAL FILE # 2798

2799 **PAPERS AND PROCEEDINGS OF THE THIRD ECONOMICS POLICY WORKSHOP ON MIGRATION AND MECHANIZATION IN EGYPTIAN AGRICULTURE.** (1982) Davis, Calif.: Agricultural Development Systems: Egypt Project, Univ. of California. (Economics Working Paper Series, no.56) 23p. KEYWORDS: Africa, Egypt, migration, mechanization, labor shortage, Agricultural Development Systems Project, policy, food security, economic growth, constraints, prices
FSR VERTICAL FILE # 2799

SOCIAL ORGANIZATION AND COMMUNITY STRUCTURE

2800 **ABSENTEE HERD OWNERS AND PART-TIME PASTORALISTS: THE POLITICAL, ECONOMY OF RESOURCE USE IN NORTHERN KENYA.** Little, P.D. (1985) Human Ecology (Vol.13 No.2 p.131-51) KEYWORDS: Africa, East Africa, Kenya, pastoralism, resource management, political economy, communal tenure, communal grazing, range management, environmental degradation, tenure, grazing patterns, livestock sector FSR VERTICAL FILE # 2800

2801 **AGRICULTURAL DEVELOPMENT IN A MATRILINEAL SYSTEM.** Kishindo, P. (1984) (Paper presented at the Farming Systems Research Workshop, Lusaka, Zambia, Nov. 27-29, 1984) Lilongwe, Malawi: Univ. of Malawi, Chancellor College. KEYWORDS: Africa, Southern Africa, Malawi, matriliney, technology, innovation adoption, case studies, anthropology, family structure
FSR VERTICAL FILE # 972

2802 **EGYPTIAN VILLAGE STUDIES: AN ANNOTATED BIBLIOGRAPHY.** Mehanna, S. (1981) Davis, Calif.: Agricultural Development Systems: Egypt Project, Univ. of California. (Economics Working Paper Series, no.44) 70p. KEYWORDS: Africa, Egypt, bibliographies, community structure, social change, technology transfers, land reform, agrarian reform, resettlement, communication, leadership, community development, power structure, class conflict, social structure, households
FSR VERTICAL FILE # 2802

2803 **FAMILY FARM IN BUGANDA.** Robertson, A.F. (1978) Development and Change (Vol.9 p.415-438) KEYWORDS: Africa, Central Africa, Uganda, economic analysis, anthropology, family structure, kinship, marriage, family farms, generations conflict, land tenure, households, development planning
FSR VERTICAL FILE # 2803

2804 **FARM AND COMMUNITY FORESTRY.** Foley, G. (1985) Overseas Development Institute Social Forestry Network Paper 1b) London: Chameleon Press Ltd.) KEYWORDS: forestry, agroforestry, communal forestry FSR VERTICAL FILE # 2804;
KSUL # SD387.A4 F64 1984

- 2805 **LOCAL MANAGEMENT SYSTEMS AND SUSTAINABILITY.** Brokensha, D. (1986) (Paper prepared for the Annual Meeting of the Society for Economic Anthropology, Riverside, California, Apr.3-4, 1986) Santa Barbara, Calif.: Dept. of Anthropology, Univ. of California. 26p. KEYWORDS: Africa, indigenous knowledge systems, management, natural resources, sustainability, agricultural policy, households, innovation adoption, change, anthropology FSR VERTICAL FILE # 2805
- 2806 **ORGANIZATION OF PRODUCTION AMONG THE SERER (REGION OF THIES).** Stomal-Weigel, B. (1980) (Paper presented for Workshop on Sahelian Agriculture, West Lafayette, Ind., Purdue University, Department of Agricultural Economics, May 1980) s.l.: 27p. KEYWORDS: Africa, Senegal, Sahel, USAID, rain-fed farming, sorghum, groundnuts, millets, socioeconomic organization, production systems, surveys FSR VERTICAL FILE # 2806
- 2807 **PASTORAL NOMADS OR MIGRANT WORKERS? THE BEDOUIN IN LEBANON SEARCH FOR THEIR FUTURE IN THE 20TH CENTURY.** Stewart, B.A. (1982?) Las Cruces, N.M.: Center for International Programs, New Mexico State Univ.. 20p. KEYWORDS: Asia, Middle East, Lebanon, Syria, nomadism, technology, technological change, socioeconomic change, traditionalism, pastoralism, Bedouin, households, labor, social structure, family structure, women FSR VERTICAL FILE # 2807
- 2808 **SOCIAL ANALYSIS OF AN AGRICULTURAL INVESTMENT PROJECT WITH EMPHASIS ON THE ROLE OF RURAL WOMEN A CASE STUDY ON THE CREDIT AND MARKETING PROJECT FOR SMALLHOLDERS IN SWAZILAND.** Carloni, A.S. (1985) Rome: Food and Agriculture Organization of the U.N. (FAO). (Training Materials for Agricultural Planning No. 11 - ESP/TMAP/11) 43p. KEYWORDS: Africa, Swaziland, FAO, social analysis, rural women, case studies, credit, marketing, small farms, subsistence farming, women in development, migration, methodology, rapid rural appraisal, food production, labor, training, constraints, roles, surveys FSR VERTICAL FILE # 2808
- 2809 **SOCIAL FORESTRY IN 1985: LESSONS LEARNT AND TOPICS TO BE ADDRESSED.** Shepherd, G. (1985) London: Chameleon Press Ltd. (Overseas Development Institute Social Forestry Network Paper 1a) 33p. KEYWORDS: forestry, agroforestry, communal forestry, tenure, social stratification, women FSR VERTICAL FILE # 2809
- 2810 **THE ROLE OF SPECIALIZED COOPERATIVES AND THE MARKETING OF POTATOES IN EGYPT.** Shazly, F. (1982) Davis, Calif.: Agricultural Development Systems: Egypt Project, Univ. of California. (Economics Working Paper Series, No. 68) 10p. KEYWORDS: Africa, Egypt, cooperatives, potatoes, marketing, background, cooperative structure, Central Agricultural Cooperative Union, credit, specialization, commodities, potatoes NOT OWNED BY KSUL

- 2811 **ZIMBABWE RURAL AFFORESTATION PROJECT: WORLD BANK APPRAISAL MISSION.** Horowitz, M.M. (1982) Binghamton, N.Y.: Institute for Development Anthropology. (Sept. 1982, Social Analysis Working Paper) 55p. KEYWORDS: Africa, Zimbabwe, forestry, afforestation, socioeconomic analysis, land tenure, land use, women's roles KSUL # SD409.H67 1982

POPULATION, NUTRITION, AND HEALTH

- 2812 **FOOD CONSUMPTION SURVEY IN GUIDIMAKA, GORGOL, BRAKNA AND TRARZA REGIONS.** Frankenberger, T.R. (1986) Farming Systems Research Along the Senegal River Valley Tucson, Ariz.: Univ. of Arizona, College of Agriculture. (Mauritania Agricultural Research Project 11; Report No.3, Apr. 1986) KEYWORDS: Africa, West Africa, Mauritania, semiarid zones, surveys, food consumption, food preferences, food preparation, food prices, food storage, food distribution, wild plants, diseases, women, gardens, food shortages, seasonality KSUL # TX360.S38 F73 1986
- 2813 **IRRIGATION TECHNOLOGY AND COMMERCIALIZATION OF RICE IN THE GAMBIA: EFFECTS ON INCOME AND NUTRITION.** von Braun, J. (1989) (International Food Policy Research Institute (IFPRI) Research Report No. 75) 116p. KEYWORDS: Africa, Gambia, tropics, rice, rice production, irrigation, food supply, nutrition, income, women in agriculture, innovation adoption, agricultural development, appropriate technology, labor, economic analysis, IFPRI KSUL # HD9066 .G25
- 2814 **KENYA'S EXPERIENCE WITH WOMEN'S GROUPS IN AGRICULTURAL, EXTENSION: STRATEGIES FOR ACCELERATING IMPROVEMENTS IN FOOD PRODUCTION AND NUTRITIONAL AWARENESS IN AFRICA.** Muzaale, P.J. (1985) Agricultural Administration (Vol.19 p.13-28) KEYWORDS: Africa, East Africa, Kenya, women in agriculture, extension, nutrition, food production KSUL # HD1401 .A36
- 2815 **NUTRITIONAL CASE STUDY OF SWAZILAND.** Hix, D.K. (1987) Manhattan, Kan.: Kansas State University. (Term Project for course, FN [Foods and Nutrition] 702: "Nutrition in Developing Countries," Dr. Meredith Smith) 29p. KEYWORDS: Africa, Swaziland, nutrition, socioeconomic analysis, diet, problem identification, objectives, planning of research, malnutrition, health, solution design, crop production, small farms, case studies FSR VERTICAL FILE # 2815

- 2816 **RAINY SEASON FOOD CONSUMPTION SURVEY IN GUIDIMAKA, GORGOL, AND BRAKNA REGIONS.** Stone, M.P. (1986) (Farming Systems Research Along the Senegal River Valley) Tucson, Ariz.: Univ. of Arizona, College of Agriculture. (Mauritania Agricultural Research Project 11; Report No.6, Jan. 1987) 99p. KEYWORDS: Africa, West Africa, Mauritania, semiarid zones, surveys, food consumption, food preferences, food preparation, food prices, food storage, food distribution, feral varieties, wild plants, diseases, women, gardens, food shortages, seasonality KSUL # S472.S381 S96 1986
- 2817 **REVIEW OF LITERATURE RELEVANT TO FOOD: CONSUMPTION ACTIVITY.** Abdou, A. (1982) Davis, Calif.: Agricultural Development Systems: Egypt Project, Univ. of California. (Economics Working Paper, No. 41) 21p. KEYWORDS: North Africa, Egypt, bibliographies, Food Consumption Activity, food shortages, cereal production, agricultural policy, rationing, income, food expenditures, demand, nutrition, diet, protein FSR VERTICAL FILE # 2817
- 2818 **SEMINAR ON FOOD CONSUMPTION AND ECONOMIC DEVELOPMENT IN RURAL, COMMUNITIES.** El-Shennawy, M. (1982) Davis, Calif.: Agricultural Development Systems: Egypt Project, Univ. of California. (Economics Working Paper Series, No.61) 12p. KEYWORDS: Africa, Egypt, food consumption, economic development, food shortages, nutrition, exports, imports, national income, food security, labor supply, price policy, social institutions, small farmers, village zoning, family structure, tenure systems FSR VERTICAL FILE # 2818
- EXTERNAL INSTITUTIONS**
- 2819 **MAINTIEN D'UNE PROMESSE: LE DEVELOPPEMENT AGRICOLE AU SAHEL** (1987) Washington, D.C.: U.S. Congress, Office of Technology Assessment. (Rapport Special De L'OTA) 36p. KEYWORDS: West Africa, Sahel, background, development programs, poverty, technology, politics, USAID, development aid, Peace Corps FSR VERTICAL FILE # 2819
- 2820 **PROGRESS OR CATASTROPHE IN AFRICA?** Norman, D.W. (1981) Africa Report (Vol.26 p.4-8) KEYWORDS: Africa, farming systems, changes, socioeconomic conditions, food shortages, rural development, recommendations, price policy, technology development, development agencies, aid KSUL # DT1 .A2

INFRASTRUCTURE, SUPPORT SYSTEMS

- 2821 **CO-OPERATIVE VEGETABLE GROWING AND MARKETING IN THE GAMBIA.** Sargent, M. (1986) Agricultural Administration (Vol. 21, p.67-79) KEYWORDS: Africa, Gambia, vegetables, onions, cooperative farming, cooperatives, marketing KSUL # HD1401 .A36; FSR VERTICAL FILE # 2821
- 2822 **IMPACT OF MODERN CHANGES IN THE CHITEMENE FARMING SYSTEM IN THE NORTHERN PROVINCE OF ZAMBIA.** Tembo, M.N. (1986) (Paper prepared for Conference on the Gender Issues in Farming Systems Research and Extension, University of Florida, Gainesville, Florida, Feb.26-Mar.1, 1986) Lusaka, Zambia: Department of Agriculture, Home Economics Section. 26p. KEYWORDS: Africa, Zambia, women in agriculture, women's status, peasant farming, nutrition, cash crops, food production, rural women, problem identification, training, sociological analysis, policy, migration, constraints, food supply, extension, subsistence farming FSR VERTICAL FILE # 2822
- 2823 **PROGRAMME OF SUPPORT FOR THE AGRICULTURAL SECTOR OF ERITREA.** Barnett, T. (1985) (Report to Euro Action Acord, Feb.22-Mar.18, 1985) Norwich, U.K.: University of East Anglia, School of Development Studies, Overseas Development. (Manuals and Reports in Development Studies No. 25) 40p. KEYWORDS: Africa, Ethiopia, agricultural development, drought, baseline data, programs and projects, irrigation, problem identification, resource management, training, resource conservation, technology transfers, livestock, recommendations, institution building, international cooperation, development aid FSR VERTICAL FILE # 2823
- 2824 **TRIP REPORT ON THE APPLIED AGRONOMIC RESEARCH PROGRAM FOR DRYLAND FARMING IN 325-450 MM RAINFALL ZONE.** Anderson, M.A. (1979) [Lincoln, Neb.: MidAmerica International Agricultural Consortium (MIAC)] 51p. KEYWORDS: Africa, North Africa, Morocco, semiarid zones, dry farming, work plans, training, credit FSR VERTICAL FILE # 2824

EXTENSION

- 2825 **1982 SORGHUM RESEARCH AND EXTENSION VILLAGE APPROACH PROGRAMME IN WESTERN KENYA.** Njeru, E.S. (1982) Farming Systems Newsletter (No.10 p.16-27) KEYWORDS: Africa, East Africa, Kenya, Africa, Kenya, semiarid zones, sorghum, millets, food production, extension, villages, programs and projects, evaluation FSR VERTICAL FILE # 2825

- 2826 **CONSTRAINTS TO AND OPPORTUNITIES FOR EXTENSION TRAINING IN SWAZILAND.** Easter, G.W. (1984) (Paper presented at Farming Systems Research & Extension Symposium, Kansas State University, Manhattan, Kansas, Oct. 8-10, 1984) s.l.: G.W. Easter, Swaziland Cropping Systems Research & Extension Training Project. 7p. KEYWORDS: Africa, Swaziland, extension, training, constraints, diffusion of information, objectives, institution building, education
FSR VERTICAL FILE # 2826
- 2827 **EXTENSION EDUCATION AND FARMERS' PERFORMANCE IN IMPROVED CROP FARMING IN KAKAMEGA DISTRICT, KENYA.** Chitere, P.A. (1985) IN: Agricultural Administration (Vol.18 p.39-55) KEYWORDS: Africa, East Africa, Kenya, education, extension, recommendations, innovation adoption, cropping systems, performance testing, crop husbandry, crop production, yields
KSUL # HD1401.A36
- 2828 **EXTENSION AGENDA FOR SUSTAINABLE AGRICULTURE.** Lucas, L.E. (1988) Proceedings of Sustainable Agriculture in the Midwest Conference Lincoln, Neb.: Univ. of Nebraska, Cooperative Extension Service, Institute of Agriculture and Natural Resources, Dept. of Agronomy. (Lincoln, Nebraska, Mar. 22, 1988) Bound with Francis, "Agricultural Systems Research..." 7p.
KEYWORDS: sustainability, extension FSR VERTICAL FILE 2910
- 2829 **EXTENSION SYSTEM AND SMALL-SCALE FARMERS: A CASE STUDY FROM NORTHERN ZAMBIA.** Francis, P. (1987) Agricultural Administration and Extension (Vol.26 p.185-196) KEYWORDS: Africa, Zambia, maize, extension, communication, diffusion of information, planning of research, technology transfers, farmers' attitudes, socioeconomic conditions, innovation adoption, evaluation, appropriate technology, education KSUL # HD1401.A36
- 2830 **FARM MANAGEMENT AND EXTENSION IN SMALLHOLDER AGRICULTURE: PART 2-APPROPRIATE FARM MANAGEMENT SKILLS AND THEIR USE IN EXTENSION.** Dorwald, A.R. (1986) Agricultural Administration (Vol.22 p.117-133) KEYWORDS: Africa, Malawi, management, extension, training, technology transfers KSUL # HD1401.A36
- 2831 **FARM MANAGEMENT AND EXTENSION IN SMALLHOLDER AGRICULTURE: PART 1-THE ROLE OF FARM MANAGEMENT IN EXTENSION.** Dorwald, A.R. (1986) Agricultural Administration (Vol.22 p.21-37) KEYWORDS: Africa, Malawi, management, extension, training, technology transfers
KSUL # HD1401.A36

- 2832 **FSR AND THE DANGLING /E: EXTENSION, INFORMATION FLOW AND THE FARMING SYSTEMS APPROACH IN NIGER.** Sowers, F.W. (1987) (Paper presented at the Seventh Annual Farming Systems Research and Extension Symposium, Univ. of Arkansas, Fayetteville, Arkansas, Oct. 18-21, 1987) [Niamey: National Cereals Program, Min. of Agriculture, Niger]. 28p. KEYWORDS: Africa, West Africa, Niger, extension, information exchange, communication
FSR VERTICAL FILE # 2832
- 2833 **MAKING AGRICULTURAL EXTENSION TRAINING PRACTICAL: FROM EVALUATION TO CURRICULUM CHANGE IN SOUTHERN SUDAN.** Jones, S. (1985) Agricultural Administration (Vol.18p.81-88) KEYWORDS: Africa, Sudan, extension, training, evaluation, national programs and projects, institution building, curriculum, educational planning, teacher training, diffusion of information KSUL # HD1401.A36
- 2834 **MANUAL OF TEACHING METHODS FOR USE IN AGROFORESTRY INTENSIVE SHORT COURSES.** Major, M. (1985) Turrialba, Costa Rica: Centro Agronómico Tropical de Investigación y Enseñanza (CATIE). 72p. KEYWORDS: agroforestry, education, teaching methods
FSR VERTICAL FILE # 2834
- 2835 **PERFORMANCE OF AN AGRICULTURAL EXTENSION SERVICE: THE CENTRE DE TRAVAUX OF OULAD SAID.** Frissel, M. (Draft) (1988) Settat, Morocco: MIAC-INRA. 27p. KEYWORDS: Africa, North Africa, Morocco, extension, agricultural production, productivity, evaluation, livestock, cattle, sheep, goats, wheat, barley, cereals, maize, mechanization FSR VERTICAL FILE # 2835

MARKETING

- 2836 **ELEMENTS DE STRATEGIE DE COMMERCIALISATION DES PRODUITS AGRICOLES.** Driouchi, A. (1988) [Meknes, Morocco: (Guide 5 Pour L'Analyse en Economie Rurale; Working Paper, February, 1988; poor photocopy) 21p. KEYWORDS: Africa, North Africa, Morocco, commercial farming, marketing
FSR VERTICAL FILE # 2836
- 2837 **SKITS, EXTENSION AGENTS, AND GRANARY RATS.** Johnson, F. (1988) VITA News (July/Oct. p.4-6) KEYWORDS: Africa, Central African Republic, extension, education, pest control, rats FSR VERTICAL FILE # 2837

PROCESSING

- 2838 **POST-HARVEST PROCESSING OF WINTER CROPS IN NW SYRIA.** Bailey, E (1980) Studies of Farming Systems in Syria, 1977-79, (Vol.1) Norwich, England: ICARDA Farming Systems Research Programme, Overseas Development Group, Univ. of East Anglia. 18p. KEYWORDS: Asia, Middle East, Syria, farming systems research, FSR, postharvest systems
KSUL # S471.S95 S78 1984

POLICIES AND STRUCTURAL REFORM PROGRAMS

- 2839 **EVALUATION OF THE ARID AND SEMI-ARID LANDS PROJECT.** Carloni, (1985) (Working Draft of paper prepared for the Center for Development Information and Evaluation) s.l.: s.n. (USAID Project No.615-0172) 38p. KEYWORDS: Africa, East Africa, Kenya, arid regions, semiarid zones, programs and projects, evaluation, women FSR VERTICAL FILE # 2839
- 2840 **FOOD SYSTEM DEVELOPMENT IN EGYPT.** Hindy, M. (1981) Davis, Calif.: Agricultural Development Systems: Egypt Project, Univ. of California. (Economics Working Paper, no.58) 15p. KEYWORDS: Africa, Egypt, food systems, land, crops, production, yield factors, population growth, income, consumption, development strategies, investment, resource use, price policy, marketing, inputs, research, extension, policy FSR VERTICAL FILE # 2840
- 2841 **FOOD PRODUCTION IN A LAND-SURPLUS, LABOR-SCARCE ECONOMY: THE ZAIRIAN BASIN.** Tshibaka, T. (1989) Washington: International Food Policy Research Institute (IFPRI). (Research Report No. 74) 70p. KEYWORDS: Africa, Zaire, humid zones, IFPRI, food production, tropics, small farms, land, labor, constraints, food supply, agricultural development, ecology, cropping systems, productivity, capital, farmers' attitudes, economic analysis, land preparation, policy, tree cropping, development policy, resource allocation KSUL # HD2135.5 .T754 1989
- 2842 **IMPACT OF AGRICULTURAL DEVELOPMENT ON A PASTORAL SOCIETY: THE SHUKRIYA OF THE EASTERN SUDAN.** Salem-Murdock, M. (1979) (Report submitted to the Agency for International Development (USAID) Binghamton, N.Y.: State University of New York at Binghamton, Department of Anthropology and Institute for Development Anthropology. 57p. KEYWORDS: Africa, Sudan, USAID, agricultural development, semiarid zones, pastoralism, irrigation, pastoral society, animal husbandry, nomads, ethnic groups, socioeconomic analysis, irrigated farming, sorghum, wheat, groundnuts, cotton, women, history, evaluation, national programs and projects KSUL HD2123.5 .M86 1979b; FSR VERTICAL FILE # 2842

- 2843 **INTEGRATED AGRICULTURAL DEVELOPMENT PROJECTS IN SIERRA LEONE - SOME IMPLICATIONS FOR THE FUTURE ADMINISTRATION OF AGRICULTURAL DEVELOPMENT.** Cusworth, J. (1985) Agricultural Administration (Vol.18 p.65-79) KEYWORDS: Africa, Sierra Leone, programs and projects, national programs and projects, evaluation, organization, management, personnel, problem identification, policy, planning, institution building, agricultural development KSUL # HD1401.A36
- 2844 **LOW-RESOURCE AGRICULTURE IN AFRICA.** Staatz, J.M. (1986) (Draft) East Lansing, Mich.: Michigan State Univ.. (Draft of U.S. Congress Office of Technology Assessment document) 47p. KEYWORDS: Africa, sustainability, inputs, small farmers, appropriate technology, organic farming, alternative farming, economic development, food security, environmental factors, constraints FSR VERTICAL FILE # 2844
- 2845 **MANAGERIAL CONSTRAINTS TO RURAL DEVELOPMENT IN AFRICA: LESSONS FROM THE GAMBIA AND ELSEWHERE.** Reilly, W. (1987) Agricultural Administration (Vol.26, p.137-149) KEYWORDS: Africa, Sahel, Gambia, programs and projects, management, management training, problem identification, constraints, rural development, decision making, cultural environment, organizational structures, organization, finance, development aid, development administration KSUL # HD1401 .A36; FSR VERTICAL FILE # 2845
- 2846 **POLITICAL REALITIES OF AFRICAN MANAGEMENT.** Leonard, D.K. (1984) (Paper prepared as background material for the AID Workshop on the Evaluation of Management in African Agricultural Development Projects) Binghamton, N.Y.: Institute for Development Anthropology, 39p. KEYWORDS: Africa, politics, development policy, agricultural policy, development administration, programs and projects, management, leadership, bureaucracy FSR VERTICAL FILE # 2846
- 2847 **REPRESENTATIVE FARM MODELING FOR EVALUATION OF NEW TECHNOLOGIES AND ANALYSIS OF AGRICULTURAL POLICIES IN MOROCCO.** Roth, M. (1988) Madison, Wisc.: Land Tenure Center, Univ. of Wisconsin. 6p. KEYWORDS: Africa, North Africa, Morocco, innovations, technology development, farm models, evaluation, agricultural policy, appropriate technology, technology analysis, pest control, price support, price policy, subsidies FSR VERTICAL FILE # 2847
- 2848 **SPECIAL STUDY: THE ADMINISTRATION OF AGRICULTURE.** Riddle, R. (1985) Rabat, Morocco: Institut Agronomique et Veterinaire Hassan II. 4p. KEYWORDS: Africa, Morocco, administration, agricultural policy, intervention, regional agricultural policy FSR VERTICAL FILE # 2848

2849 **TECHNICAL REPORT OF THE INTSORMIL PROGRAM TEAM.** (1981) (Paper prepared for Semi-Arid Food Grains Research and Development Project Farming Systems Workshop, Jan. 12-15, 1981, Dakar, Senegal) Lincoln, Neb.: University of Nebraska, International Sorghum/Millet (INTSORMIL). 13p. KEYWORDS: Africa, West Africa, Senegal, Mali, SAFGRAD, INTSORMIL, ISRA, ICRISAT, IDRC, programs and projects, farming systems research, sorghum, millets, research institutes, training, institution building FSR VERTICAL FILE # 2849

TECHNOLOGICAL AND MECHANICAL FACTORS

- 2850 **AGRICULTURAL MECHANIZATION AND THE EVOLUTION OF FARMING SYSTEMS IN SUB-SAHARAN AFRICA.** Pingali, P. (1987) Baltimore, Md.: Johns Hopkins University Press. 216p. KEYWORDS: Africa, tropics, humid tropics, mechanization, animal traction, history, animal husbandry, oxen, technology transfers, tillage, trypanosomiasis, policy, tractors, intensification, cultivation methods, labor, constraints, destumping, markets, yields, utilization, highlands, seasonality, land use, income, fodder, plowing, tree crops, fallow KSUL # S760.A357 P56 1987
- 2851 **ECONOMIC EVALUATION OF SELECTED AGRICULTURAL TECHNOLOGIES WITH IMPLICATIONS FOR DEVELOPMENT STRATEGIES IN BURKINA-FASO.** Roth, M.(1984) (Paper prepared for the Farming Systems Research and Extension Symposium, Kansas State University, Manhattan, Kansas, Oct. 7-10, 1984) West Lafayette, Ind.: Purdue Univ., International Education and Research, International Programs in Agriculture. 45p. KEYWORDS: Africa, West Africa, Burkina Faso, technology analysis, evaluation, economic evaluation, farm models, animal traction, fertilization, tillage, tie ridging KSUL # S539.5 .F37 No.9
- 2852 **LOW-INPUT, ENVIRONMENTALLY SENSITIVE TECHNOLOGIES FOR AGRICULTURE.** Nickel, J.L. (1987) (Grant F. Walton International Lecture presented at Rutgers, The State University of New Jersey, New Brunswick, New Jersey, Oct. 16, 1984) Cali, Colombia: Centro Internacional de Agricultura Tropical (CIAT). (Reprint Series 001) 22p. KEYWORDS: technology, environment, sustainability, organic farming FSR VERTICAL FILE # 2852
- 2853 **SHRINKING PLANET: U.S. INFORMATION TECHNOLOGY AND SUSTAINABLE DEVELOPMENT.** Elkington, J. (1988) New York: World Resources Institute. 78p. KEYWORDS: technology, information exchange, computers, sustainability KSUL # HC59.72.I55 E45 1988

2854 **UTILISATION DES BUDGETS PARTIELS DANS L'EVALUATION ECONOMIQUE DES INNOVATIONS EN AGRICULTURE.** Driouchi, A. (1988) Settat, Morocco: Centre Regional de la Recherche Agronomique de la Chaouia Abda et Doukkala. (Guide Numero 3 Pour L'Analyse en Economie Rurale; Working Paper, February, 1988; USAID Project No. 608-0136) 25p. KEYWORDS: Africa, North Africa, Morocco, economic evaluation, techniques FSR VERTICAL FILE # 2854

MECHANIZATION

2855 **AVERAGE SIZED FARM OPERATED BY TRACTOR OWNERS IN ABDA REGION OF SAFI PROVINCE, MOROCCO.** Rafsnider, G. (1987) Settat, Morocco: MidAmerica International Agricultural Consortium-Morocco Project Aridoculture Center. (MIAC Agric. Econ. Info. Rpt. No. 5) 4p. KEYWORDS: Africa, Morocco, Safi province, tractors, MIAC-INRA study, statistics, mechanization, rain-fed farming, farm size, cropping patterns, methodology, land tenure, cereals, legumes, land tenure, technology FSR VERTICAL FILE # 2855

2856 **AVERAGE SIZED FARM OPERATED BY FARMERS NOT OWNING TRACTORS IN ABDA REGION OF SAFI PROVINCE, MOROCCO.** Rafsnider, G. (1987) Settat, Morocco: MidAmerica International Agricultural Consortium-Morocco Project Aridoculture Center. (MIAC Agric. Econ. Info. Rpt. No. 6) 3p. KEYWORDS: Africa, Morocco, Safi province, tractors, average farm size, mechanization, Aridoculture Center project, cereals, legumes, land tenure, cropping patterns, small farms FSR VERTICAL FILE # 2856

2857 **FARMING SYSTEMS RESEARCH AND PROJECT IMPLEMENTATION: THE EGYPTIAN/USAID AGRICULTURAL MECHANIZATION PROJECT, A CASE STUDY.** El-Haddad, Z. (1984) (Paper presented at the Farming Systems Research Seminar, Kansas State University, October 1984) s.l: s.n. 10p. KEYWORDS: Africa, Egypt, project implementation, USAID, Agricultural Mechanization Project, productivity, technology, research, development, extension, service center, village workshop development, land improvement, manufacturing, planning, evaluation, farming systems FSR VERTICAL FILE # 2857

2858 **MECANISATION DU SEMIS ET DE LA RECOLTE DES LENTILLES.** Herzenni, A. (n.d.) (s.l.): (s.n.). (Essai d'evaluation de couts) 10p. KEYWORDS: Africa, Morocco, mechanization, seeds, harvesting, lentils, methodology, cost, soil preparation, cereals FSR VERTICAL FILE # 2858

- 2859 **MECHANISATION AND AGRICULTURAL DEVELOPMENT.** Bergmann, T. (1984) Göttingen, West Germany: Edition Herodot. (Socio-economic Studies on Rural Development, Vol.49; General Report) 140p. KEYWORDS: West Asia, South Asia, mechanization, development policy KSUL # HD1459 .B47 1984 v.1
- 2860 **MECHANIZATION, MIGRATION, AND LABOR IN AN EGYPTIAN VILLAGE.** Hopkins, N. (1981) Davis, Calif.: Agricultural Development Systems: Egypt Project, Univ. of California. (Economics Working Paper Series, No.47) 25p. KEYWORDS: Africa, Egypt, mechanization, migration, labor, villages, agricultural commercialization, capitalist market system, self-sufficiency, land tenure, women's roles, labor organization, households FSR VERTICAL FILE # 2860
- 2861 **PLANTING METHODS FOR WINTER CROPS IN NW SYRIA.** Harvey, J. (1980) Studies of Farming Systems in Syria, 1977-79 Vol.1 Norwich, England: ICARDA Farming Systems Research Programme, Overseas Development Group, Univ. of East Anglia. (Complementary to Vol.2, Farming Systems in Six Aleppo and Two Hama Villages) 29p. KEYWORDS: Asia, Middle East, Syria, farming systems research, FSR, crop production, planting, seed drills NOT OWNED BY KSUL
- 2862 **RESULTATS DE TESTS SUR QUELQUES MACHINES À FAIBLE PUISSANCE.** Herzenni, A. (1988?) s.l.: 11p. KEYWORDS: Africa, North Africa, Morocco, mechanization, technology analysis FSR VERTICAL FILE # 2862

ENERGY

- 2863 **CONSOMMATIONS DE COMBUSTIBLES DOMESTIQUES AU SÉNÉGAL SUR FOYERS TRADITIONNELS ET SUR FOYERS AMÉLIORÉS.** Madon, G. (1982) (Domestic Fuel Consumption in Senegal in Traditional and Improved Hearths) Washington: U.S. Agency for International Development (USAID). (USAID No. PN-AAL-818) 40p. KEYWORDS: Africa, Senegal, Sahel, arid regions, USAID, deforestation, fuelwood, appropriate technology, energy, technology transfers, BAS stoves, innovation adoption, cooking, cookstoves, urban areas, household consumption FSR VERTICAL FILE # 2863

TECHNOLOGY TRANSFER

- 2864 **ACCEPTANCE OF CERTAIN AGRICULTURAL INNOVATIONS IN THE DITSOBOTLA DISTRICT OF BOPHUTHATSWANA.** Redelinghuys, H.J. (1981) Pretoria: Human Sciences Research Council; South African Institute for Manpower Research. 51p. KEYWORDS: Africa, Southern Africa, South Africa, technology transfers, innovation adoption, maize, crop production, labor organization FSR VERTICAL FILE # 2864

- 2865 **ALTERNATIVES POUR LA TRANSFORMATION DU MAÏS.** Muchnik, J. (1980) République Française: Ministère de la Coopération. (Technologies et Développement) 85p. KEYWORDS: Central America, Mexico, agricultural history, irrigation, consumption, nutrition, technology, technological history, maize
FSR VERTICAL FILE # 2865
- 2866 **COMMUNICATION OF AGRICULTURAL INFORMATION IN SUDANESE VILLAGES.** Nazhat, S.M. (1987) Lexington, Ky.: University of Kentucky, College of Agriculture, Department of Sociology and International Sorghum/Millet (INTSORMIL). (Report No. 5; INTSORMIL Contract No. AID/DSAN-G-0149) 51p. KEYWORDS: Africa, Sudan, INTSORMIL, sorghum, millets, hybrids, diffusion of information, innovation adoption, communication, sesame, seeds, extension, villages, gender, markets, farmers' attitudes, technology transfers FSR VERTICAL FILE # 2866
- 2867 **FACTORS CONTRIBUTING TO THE RAPID DEVELOPMENT OF SMALL-SCALE IRRIGATION SCHEMES ALONG THE SENEGAL RIVER.** Van der Laan, E. (1984) Agricultural Administration (Vol.17 p.203-213) KEYWORDS: Africa, West Africa, Senegal, rural development, irrigated farming, irrigation systems, technology transfers, farmers' attitudes, land, labor, income, institution building, socioeconomic organization, women in agriculture, food production, rice, innovation adoption, political systems, methodology, small farms
KSUL # HD1401.A36
- 2868 **MÉCANISMES INFORMELS ET TRANSFERT DE TECHNOLOGIE: LE CAS DU PROJET PACO EN CÔTE D'IVOIRE.** Eponou, T. (1990) The Hague: International Service for National Agricultural Research (ISNAR). (Document de Discussion sur les Liens No.5f) 14p. KEYWORDS: Africa, Ivory Coast, technology transfers NOT OWNED BY KSUL
- 2869 **MODES OF FARMER PARTICIPATION IN FSR/E.** Youmans, D. (1986?) s.l.: s.n. 8p. KEYWORDS: Africa, Southern Africa, Lesotho, farmer participation, participatory strategies, innovation adoption FSR VERTICAL FILE # 2869
- 2870 **RECENT CHANGE IN VILLAGES AND RAINFED AGRICULTURE IN NORTHERN CENTRAL KORDOFAN: COMMUNICATION PROCESS AND CONSTRAINTS.** Coughenour, C.M. (1985) Lexington, Ky.: University of Kentucky, College of Agriculture, Department of Sociology & International Sorghum/Millet (INTSORMIL). (Report No.4; INTSORMIL Contract No. AID/DSAN-G-0149) 83p. KEYWORDS: Africa, Sudan, INTSORMIL, rain-fed farming, hybrids, innovation adoption, socioeconomic constraints, sorghum, millets, agricultural development, seeds, gender, communication, extension, ecology, technology transfers, diffusion of information, women, recommendations, villages
FSR VERTICAL FILE # 2870

- 2871 **ROLE OF ADAPTIVE RESEARCH IN TECHNOLOGY ADOPTION: THE CASE OF MANGROVE SWAMP RICE FARMERS OF WEST AFRICA.** Prakak Asante, (1985) IN: Appropriate Technologies for Farmers in Semi-Arid West Africa. H.W. Ohm and J.G. Nagy, eds. West Lafayette, Ind.: Purdue University. (p.145-153) 9p. KEYWORDS: Africa, West Africa, semiarid zones, appropriate technology, mangrove swamps, rice, innovation adoption KSUL # S616.A46 A66 1985
- 2872 **TECHNOLOGY AND AGRICULTURAL PRODUCTIVITY IN THE SAHEL.** Jayne, T.S. (1989) Washington: U.S. Dept. of Agriculture, Economic Research Service, Resources and Technology Division. (Agricultural Economic Report No.612 (AER-612)) 27p. KEYWORDS: Africa, Sahel, arid regions, sustainability, technological change, technology transfers, tie ridging, animal traction, fertilization, soil management, water management, productivity, dry farming SuDoc # A 1.107:612; FSR VERTICAL FILE # 2872
- 2873 **TESTING OF A DELIVERY SYSTEM TO TRANSFER AGRICULTURAL TECHNOLOGY TO SMALL FARMERS IN LDC'S.** Harris, T.S. (1979) (Report of the Ghana Experience) Prairie View, Tex.: College of Agriculture, Prairie View A & M Univ. 23p. KEYWORDS: Africa, West Africa, Ghana, technology transfers, appropriate technology, models, intercropping, on-farm testing FSR VERTICAL FILE # 2873

APPROPRIATE TECHNOLOGY

- 2874 **APPROPRIATE TECHNOLOGIES FOR FARMERS IN SEMI-ARID WEST AFRICA.** Ohm, H.W.,ed. (1985) (Proceedings of a SAFGRAD/OAU/STRC/Farming Systems Unit Workshop) West Lafayette, Ind.: Purdue University. (USAID Contract AFR-C-1472) 359p. KEYWORDS: Africa, West Africa, Sahel, Sudan, Niger, Nigeria, Burkina Faso, Senegal, Ghana, SAFGRAD, OAU/STRC, semiarid zones, appropriate technology, tillage, water management, water conservation, soil conservation, soil preparation, soil fertility, fertilizer, sorghum, rice, millets, maize, cotton, cereals, cowpeas, mixed cropping, hybrids, cropping systems, crop production, livestock, animal traction, tie ridging, planning of research, inputs, economic analysis, small farms KSUL S616.A46 A66 1985
- 2875 **EXHAURE PAR TRACTION ANIMALE POUR LE MARAICHAGE. REALISATION D'UN MANEGE-POMPE A ANE TYPE SAHORES 81.** Monod, G. (1983) (Rapport de mission, Janvier 83) Verberie, France: Institut Technologique Dello. 42p. KEYWORDS: Africa, Senegal, Sahel, arid regions, animal power, pumps, pump technology, technology development FSR VERTICAL FILE # 2875

- 2876 **FARM LABOR BY AGE AND SEX IN NORTHWESTERN SYRIA: IMPLICATIONS FOR TWO PROPOSED TECHNOLOGIES.** Rassam, A. (1985) (Draft of paper presented at the Farming Systems Symposium: Farming Systems Research and Extension: Management and Methodology, Kansas State Univ., Manhattan, Kan., Oct. 13-16, 1985) s.l.: s.n. 20p. KEYWORDS: Asia, Middle East, Syria, labor, technology, legumes, harvesting, chickpeas, gender analysis, appropriate technology, households, household labor, technology transfers
FSR VERTICAL FILE # 2876
- 2877 **GENERATING APPROPRIATE MAIZE TECHNOLOGY IN MANGWENDE - A HIGH POTENTIAL COMMUNAL AREA IN ZIMBABWE.** Shumba, E. (1985) (Draft) (Harare?, Zimbabwe: Ministry of Agriculture, Dept. of Research and Specialist Services). (Working Paper No.1) 43p. KEYWORDS: Africa, Zimbabwe, maize, appropriate technology, communal tenure, crop production, animal power, methodology, precipitation, soils, labor FSR VERTICAL FILE # 2877
- 2878 **PRODUCTION SYSTEMS IN LOWER CASAMANCE AND STRATEGIES ADOPTED BY FARMERS FOR THE WATER SHORTAGE.** Posner, J. (1985) IN: Appropriate Technologies for Farmers in Semi-Arid West Africa. H. Ohm and J. Nagy, eds. W. Lafayette, Ind.: Purdue University. (p.179-203) 25p. KEYWORDS: Africa, Senegal, semiarid zones, appropriate technology, rice, millets, maize, groundnuts, production systems, drought, cassava, farming systems research, cultivars, sorghum, cowpeas, cropping systems, rural development, technology transfers, on-farm trials, diversification, intensification, land reclamation, climatic factors, innovation adoption KSUL # S616.A46 A66 1985

RECOMMENDED TECHNOLOGY

- 2879 **SEMI-ARID FOOD GRAINS RESEARCH AND DEVELOPMENT: PROJECT EVALUATION.** Albert, J. (1984) Washington: U.S. Agency for International Development, Bureau for Africa. (USAID Project No.698-0393; Includes documents No. PD-JAC-534 and XD-JAC-534-A) 463p. KEYWORDS: Africa, technology development, technology transfers, SAFGRAD, small farmers, programs and projects, USAID, semiarid zones, soil management, varietal improvement, cereals, maize, sorghum, millets, legumes, legumes -- grain, cowpeas, groundnuts, field tests, staple crops, information exchange KSUL # S616.A358 S46 1984a

HUMAN ELEMENT: ENDOGENOUS FACTORS (HOUSEHOLD)

- 2880 **EMPLOYMENT GENERATED BY PROJECTS OF THE CENTRAL TUNISIA DEVELOPMENT AUTHORITY.** Schaefer-Davis, S. (1985) Worcester, Mass.: Clark Univ.. (Cooperative Agreement on Human Settlements and Natural Resource Systems Analysis) 128p. **KEYWORDS:** Africa, North Africa, Tunisia, farmer groups, CTDA projects, families, labor, expenditures, income, livestock, marketing, irrigation, project implementation, business conditions, credit FSR VERTICAL FILE # 2880
- 2881 **HOUSEHOLD REVENUE AND EXPENDITURE PATTERNS IN SABENEBOUGOU, MALI.** Ritchie, D.K. (1980) (Paper prepared for Workshop on Sahelian Agriculture, Purdue University, West Lafayette, Ind., May 1980) s.l.: s.n. (USAID Contracts AFR-C-1257 & 1258) 5p. **KEYWORDS:** Africa, Sahel, Mali, households, income, economic analysis, expenditures, socioeconomic systems FSR VERTICAL FILE # 2881
- 2882 **RAPPORT DEVALUATION DES IMPACTS SOCIO-ECONOMIQUES DANS LE PPI DE GARAAT ENNAAM.** Larson, B. (1986) Worcester, Mass.: Clark University. (Cooperative Agreement on Human Settlements and Natural Resource Systems Analysis) 42p. **KEYWORDS:** Africa, Tunisia, irrigation, public perimeter irrigation, USAID, recommendations, popularization, extension, families, living conditions, labor, revenues, division of labor, women FSR VERTICAL FILE # 2882
- 2883 **SOCIO-ECONOMIC FACTORS AFFECTING DECISIONS OF TRADITIONAL FARMER ON INVESTMENT IN LIVESTOCK IN SHARKIA GOVERNORATE.** Soliman, I. (1982) Davis, Calif.: Agricultural Development Systems: Egypt Project, University of California. (Economics Working Paper Series, No.65) 27p. **KEYWORDS:** Africa, Egypt, traditional farming, livestock, investment, land holdings, cropping patterns, family labor, family consumption, education, age, family size, occupation FSR VERTICAL FILE # 2883
- 2884 **UNDERSTANDING AFRICA'S RURAL HOUSEHOLDS AND FARMING SYSTEMS.** Moock, J.L., ed. (1986) Boulder, Colo.: Westview Press. (Westview Special Studies on Africa) 234p. **KEYWORDS:** Africa, Botswana, Cameroon, Nigeria, small farms, households, women, FSR, economic analysis, anthropology, social change, management, labor, crops, cattle, social structure, sheep, goats, small ruminants, training, personnel, roles, methodology, policy, productivity KSUL # HD1476.A357 U53 1986
- 2885 **WOMEN MADE VISIBLE: THEIR CONTRIBUTIONS TO FARMING SYSTEMS AND HOUSEHOLD INCOMES IN ZAMBIA AND TANZANIA.** Due, J.M. (1985) Urbana, Ill.: Univ. of Illinois at Urbana-Champaign, Dept. of Agricultural Economics. (Illinois Agricultural Economics Staff Paper No.85 E-313, Apr. 1985) 11p. **KEYWORDS:** Africa, Zambia, Tanzania, women in agriculture, households, income, socioeconomic status, labor, credit, surveys, technology, training FSR VERTICAL FILE # 2885

GOALS AND RISKS

- 2886 **RISK AS MEDIUM OF DIFFERENTIATION UNDER UNIMODAL DEVELOPMENT STRATEGIES IN THE SEMI-ARID TROPICS OF WEST AFRICA.** Carter, M.R. (1987) (Draft of paper prepared for presentation to the Society for Economic Anthropology, University of California-Riverside, Apr. 3-4, 1987) s.l.: s.n. 28p. KEYWORDS: Africa, West Africa, semiarid tropics, risks, development planning, growth, socioeconomic analysis FSR VERTICAL FILE # 2886
- 2887 **RISK BEARING BY SMALL FARMERS IN ABDA REGION OF SAFI PROVINCE, MOROCCO DURING THE 1985-86 CROP YEAR.** Rafsnider, G. (1988) Settat, Morocco: MidAmerica International Agricultural Consortium-Morocco Project Aridoculture Center. (MIAC Agric. Econ. Info. Rpt. No. 9) 5p. KEYWORDS: Africa, Morocco, risks, crops, crop production variabilities, methodology, cereals, legumes, land, data FSR VERTICAL FILE # 2887

ECONOMIC INPUTS

- 2888 **COLONIZACIÓN Y DEFORESTACIÓN EN AMÉRICA CENTRAL: DISCUSIÓN SOBRE MATERIAS DE DESARROLLO.** Collins, J.L. (1986) Worcester, Mass.: Clark University and Institute for Development Anthropology, Binghamton, N.Y.. (Cooperative Agreement on Human Settlements and Natural Resource Systems Analysis; Working Paper No.3 1; also in English, see "Settlement and Deforestation...") 39p. KEYWORDS: Latin America, Central America, settlement, deforestation, labor, infrastructure development, policy, land use, land tenure, land tenancy, resource control FSR VERTICAL FILE # 2888
- 2889 **ENTERPRISE BUDGETS FOR CEREALS PRODUCED BY FARMERS WHO OWNED TRACTORS AND OPERATED BETWEEN 10 AND 250 HECTARES IN THE ABDA REGION OF SAFI PROVINCE, MOROCCO DURING THE 1985-86 CROPPING YEAR.** Rafsnider, G. (1987) Lincoln, Neb.: University of Nebraska. (Morocco Dryland Agriculture Applied Research Program under USAID Project No. 608-0136, Agricultural Economics Bulletin Number 1) 21p. KEYWORDS: Africa, Morocco, enterprise budgets, cereals, tractors, barley, maize, hard wheat, wheat, technical production, farmer surveys, operating costs, revenues, capital, tillage, fertilization, planting, crop husbandry, harvesting, storage FSR VERTICAL FILE # 2889

- 2890 **ENTERPRISE BUDGETS FOR CEREALS PRODUCED BY FARMERS WHO RENTED TRACTOR SERVICES AND OPERATED LESS THAN TEN HECTARES IN THE ABDA REGION OF SAFI PROVINCE, MOROCCO DURING THE 1985-86 CROPPING YEAR.** Rafsnider, G. (1987) (Research carried out as part of the Morocco Dryland Agriculture Applied Research Program under USAID Project No.608-0136 Lincoln, Neb.: Univ. of Nebraska Dept. of Economics (Agricultural Economics Bulletin No.5) 13p. KEYWORDS: Africa, North Africa, Morocco, arid regions, evaluation, cereals, barley, maize, wheat, enterprise budgets, surveys--short term, statistical analysis FSR VERTICAL FILE # 2890
- 2891 **ENTERPRISE BUDGETS FOR CEREALS PRODUCED BY FARMERS WHO RENTED TRACTOR SERVICES AND OPERATED BETWEEN TEN AND THIRTY HECTARES IN THE ABDA REGION OF SAFI PROVINCE, MOROCCO DURING THE 1985-86 CROPPING YEAR.** Rafsnider, G. (1987) Lincoln, Neb.: University of Nebraska. (Morocco Dryland Agriculture Applied Research Program under USAID Project No. 608-1036, Agricultural Economics Bulletin No. 3) 16p. KEYWORDS: Africa, Morocco, crop enterprise budgets, cereals, tractors, barley, maize, wheat, technical production, production, tillage, planting, crop husbandry, cultivation, harvesting, storage, revenues FSR VERTICAL FILE # 2891
- 2892 **ENTERPRISE BUDGETS FOR FOOD LEGUMES PRODUCED BY FARMERS WHO RENTED TRACTOR SERVICES AND OPERATED LESS THAN TEN HECTARES IN THE ABDA REGION OF SAFI PROVINCE, MOROCCO DURING THE 1985-86 CROPPING YEAR.** Rafsnider, G. (1987) Lincoln, Neb.: University of Nebraska. (Morocco Dryland Agriculture Applied Research Program under USAID Project No. 608-0136, Agricultural Economics Bulletin No. 6) 15p. KEYWORDS: Africa, Morocco, crop enterprise budgets, legumes, tractors, chickpeas, faba beans, lentils, peas, technical production, surveys, operating costs, tillage, planting, crop husbandry, cultivation, harvesting, storage, revenues FSR VERTICAL FILE # 2892
- 2893 **ENTERPRISE BUDGETS FOR FOOD LEGUMES PRODUCED BY FARMERS WHO RENTED TRACTORS AND OPERATED BETWEEN 10 AND 250 HECTARES IN THE ABDA REGION OF SAFI PROVINCE, MOROCCO DURING THE 1985-86 CROPPING YEAR.** Rafsnider, G. (1987) Lincoln, Neb.: University of Nebraska. (Morocco Dryland Agriculture Applied Research Program under USAID Project No. 608-0136, Agricultural Economics Bulletin Number 2) 21p. KEYWORDS: Africa, Morocco, enterprise budgets, legumes, tractors, chickpeas, faba beans, peas, lentils, technical production, farmer surveys, operating costs, revenues, capital, tillage, cultivation, planting, crop husbandry, harvesting, storage FSR VERTICAL FILE # 2893

- 2894 **ENTERPRISE BUDGETS FOR FOOD LEGUMES PRODUCED BY FARMERS WHO RENTED TRACTORS AND OPERATED BETWEEN TEN AND THIRTY HECTARES IN THE ABDA REGION OF SAFI PROVINCE, MOROCCO DURING THE 1985-86 CROPPING YEAR.** Rafsnider, G. (1987) Lincoln, Neb.: University of Nebraska. (Morocco Dryland Agriculture Applied Research Program under USAID Project No. 608-0136, Agricultural Economics Bulletin Number 4) 15p. KEYWORDS: Africa, Morocco, enterprise budgets, legumes, tractors, 'chickpeas, faba beans, peas, lentils, technical production, farmer surveys, operating costs, revenues, capital, tillage, cultivation, planting, crop husbandry, harvesting, storage
FSR VERTICAL FILE # 2894
- 2895 **GUIDE GENERAL POUR L'EVALUATION DES COUTS DES ANIMAUX ET PRODUITS ANIMAUX.** Driouchi, A. (1988) Settlat, Morocco: Centre Regional de la Recherche Agronomique de la Chaouia Abda et Doukkala. (Guide Numero 2 Pour L'Analyse en Economie Rurale; Working Paper, January, 1988; USAID Project No. 608-0136) 35p. KEYWORDS: Africa, North Africa, Morocco, production costs, livestock production, animal products, economic evaluation
FSR VERTICAL FILE # 2895
- 2896 **GUIDE GENERAL POUR L'EVALUATION DES COUTS DE PRODUCTION DES CULTURES.** Driouchi, A. (1988) Settlat, Morocco: Centre Regional de la Recherche Agronomique de la Chaouia Abda et Doukkala. (Guide Numero 1 Pour L'Analyse en Economie Rurale; Working Paper, January, 1988; USAID Project No. 608-0136) 38p. KEYWORDS: Africa, North Africa, Morocco, production costs, crop production, economic evaluation FSR VERTICAL FILE # 2896
- 2897 **HOUSEHOLD DYNAMICS AND THE ORGANIZATION OF PRODUCTION IN CENTRAL TUNISIA.** Salem-Murdock, M. (1986) Worcester, Mass.: Clark University. (Cooperative Agreement on Human Settlements and Natural Resource Systems Analysis) 81p. KEYWORDS: Africa, North Africa, Tunisia, households, irrigation, farming systems, labor, agricultural productivity, inter-household research, intra-household research, land, water, capital, livestock, kinship, tribal affiliation, social status, political position, marketing, production strategies
FSR VERTICAL FILE # 2897
- 2898 **LESOTHO FARMING SYSTEMS: A CLOSER LOOK AT WOMEN FARM MANAGERS AND THE PROBLEMS OF SUBSISTENCE PRODUCTION.** Butler, L.M. (1983) (Paper presented at the Eleventh International Congress of Anthropological and Ethnological Sciences, Vancouver, British Columbia, Aug.21, 1983) Puyallup, Wash.: Dept. of Rural Sociology and Extension Anthropology, Washington State University 21p. KEYWORDS: Africa, Southern Africa, Lesotho, women in agriculture, management, subsistence farming, socioeconomic status, land, labor, animal traction, migration, baseline data FSR VERTICAL FILE # 2898

- 2899 **SETTLEMENT AND DEFORESTATION IN CENTRAL AMERICA: A DISCUSSION OF DEVELOPMENT ISSUES.** Collins, J.L. (1986) Worcester, Mass.: Clark University and Institute for Development Anthropology, Binghamton, N.Y.. (Cooperative Agreement on Human Settlements and Natural Resource Systems Analysis; Working Paper No.31; also in Spanish, see "Colonización y Deforestación..") 36p. KEYWORDS: Latin America, Central America, settlement, deforestation, labor, infrastructure development, policy, land use, land tenure, land tenancy, resource control FSR VERTICAL FILE # 2899
- 2900 **SIGNIFICANCE OF DISTANCE CONSTRAINTS IN PEASANT FARMING SYSTEMS - WITH SPECIAL REFERENCE TO SUB-SAHARAN AFRICA.** McCall, M.K. (1985?) Enschede, Netherlands: Twente University of Technology, Technology and Development Group. 41p. KEYWORDS: Africa, farming systems, farming systems, work studies, time allocation, geography, geographical distribution, distance travelled, constraints, women, labor, planning, settlements, intensification FSR VERTICAL FILE # 2900
- 2901 **SUMMARY OF THE FOUR PRINCIPAL CEREAL AND FOUR PRINCIPAL FOOD LEGUME PRODUCTION COSTS PER QUINTAL FOR EACH OF THE THREE CLASSES OF FARMERS IN ABDA REGION OF SAFI PROVINCE, MOROCCO DURING THE 1985-86 CROP YEAR.** Rafsnider, G.T. (1988) (Settat, Morocco?: Assoc. Professor, Univ. of Nebraska and MIAC Agricultural Economist). (Agricultural Economics Bulletin No. 7; Research carried out as part of the Morocco Dryland Agriculture Applied Research Program under USAID Project No. 608-0136) 14p. KEYWORDS: Africa, North Africa, Morocco, cereals, legumes, production costs, food production FSR VERTICAL FILE # 2901
- 2902 **TRACTOR OWNER OPERATING CAPITAL AND LABOR REQUIREMENTS FOR CEREAL PRODUCTION IN ABDA REGION OF SAFI PROVINCE.** Rafsnider, G. (1987) Settat, Morocco: MidAmerica International Agricultural Consortium-Morocco Project Aridoculture Center. (MIAC Agric. Econ. Rpt. No. 7) 4p. KEYWORDS: Africa, Morocco, Safi province, tractors, mechanization, capital, labor, cereal production, technology, dryland agricultural research, tillage, fertilization, planting, crop husbandry, cultivation, harvesting, storage FSR VERTICAL FILE # 2902
- 2903 **VARIABLE COSTS OF PRODUCTION FOR CEREAL AND FOOD LEGUME CROPS IN ABDA REGION OF SAFI PROVINCE.** Rafsnider, G. (1987) Settat, Morocco: MIAC-Morocco Project, Aridoculture Center. (MIAC Agric. Econ. Rpt. No.8) 3p. KEYWORDS: Africa, Morocco, Safi province, production costs, cereals, legumes, economic analysis FSR VERTICAL FILE # 2903

LAND

- 2904 **FACTORS INFLUENCING THE REDUCTION OF MAIZE ACREAGE ON SWAZI NATION LAND.** Sithole, V.M. (1987) Agricultural Administration and Extension (Vol.27 p.201-213) KEYWORDS: Africa, Swaziland, maize, land tenure, farmers' attitudes, food production, production costs, self sufficiency, national programs and projects, labor, land use, markets, policy
KSUL # HD1401 .A36
- 2905 **LAND TENURE AND TECHNOLOGICAL INNOVATIONS IN THE ETHIOPIAN HIGHLANDS.** Whalen, I.T. (1984) (Draft prepared for the ARPT/CIMMYT Workshop on the Role of Rural Sociology in Farming Systems Research, Lusaka, Zambia, Nov. 27-29, 1984) s.l.: s.n. 14p. KEYWORDS: Africa, Ethiopia, land tenure, ILCA, rural organization, land use, appropriate technology, livestock, rural sociology, planning of research, forage crops, problem identification, animal production, mixed farming, cooperatives, peasant farming, innovation adoption
FSR VERTICAL FILE # 2905

LABOR MANAGEMENT

- 2906 **PROBLEMATIQUE D'UN THEME TECHNIQUE AGRICOLE: LE LABOR DE FIN DE CYCLE AVEC ENFOUISSEMENT DES PAILLES.** Faye, J. (1977) (Séminaire sur les technologies combinées dans l'écosystème Sahélien du 4 au 14 Janvier 1977 à Dakar) Bambey, Senegal: Centre National de Recherches Agronomiques. (Delegation Generale a la Recherche Scientifique et Technique 10p. KEYWORDS: Africa, Senegal, arid regions, Sahel, problem identification, labor, labor allocation, labor requirements, mechanization, seasonal labor
FSR VERTICAL FILE # 2906

ECONOMIC OUTPUT

- 2907 **SOCIO-ECONOMIC DETERMINANTS OF FOOD CONSUMPTION AND PRODUCTION IN RURAL SIERRA LEONE: APPLICATION OF AN AGRICULTURAL, HOUSEHOLD MODEL WITH SEVERAL COMMODITIES.** Strauss, J. (1983) East Lansing, Mich.: Michigan State University, Department of Agricultural Economics. (MSU International Development Paper No. 5) 91p. KEYWORDS: Africa, Sierra Leone, food consumption, households, nutrition, sociology, demand, production, household consumption, models, income, commodities
KSUL HD9017.S52 S88 1983; FSR VERTICAL FILE # 2907

FOOD

- 2908 **RAINY SEASON FOOD CONSUMPTION SURVEY IN THE MIDDLE VALLEY BETWEEN PODOR AND MATAM, SENEGAL.** Stone, P. (1987) IN: Farming Systems Research Along the Senegal River Valley Tucson, Ariz.: University of Arizona, College of Agriculture, Office of Arid Lands Study. (Report No.2, Jan. 1987; Senegal Agricultural Research Project 11) 70p. KEYWORDS: Africa, Senegal, USAID, food, food consumption, food preferences, food distribution and marketing, seasonality, food storage, gathering, women in agriculture, surveys, food habits, socioeconomic organization, arid regions KSUL # S472.S381 S95 1986

FARMING SYSTEMS RESEARCH METHODOLOGY

- 2909 **1986 GAMBIA/WEST AFRICA FARMING SYSTEMS RESEARCH/ EXTENSION (FSR/E) WORKSHOP: DIAGNOSIS, DESIGN AND ANALYSIS.** Caldwell, J. (1986) Blacksburg, Va.: Virginia Polytechnic Institute and State University 26p. KEYWORDS: Africa, West Africa, Gambia, extension, surveys, sondeos, problem identification, project design, programs and projects, analysis, training, agricultural research, planning of research, models FSR VERTICAL FILE # 2909
- 2910 **AGRICULTURAL SYSTEMS RESEARCH: WHAT IS IT AND WILL, IT INCREASE SUSTAINABILITY?** Francis, C.A. (1988) (Lecture presented in Issues in Agricultural and Life Sciences Spring Lecture Series, College of Agricultural and Life Sciences, Univ. of Wisconsin, Madison, Wisconsin, Apr. 7, 1988) Lincoln, Neb.: Univ. of Nebraska, Cooperative Extension Service, Institute of Agriculture and Natural Resources, Dept. of Agronomy. 12p. KEYWORDS: sustainability, research, farming systems theory, methodology, technology, extension, information exchange FSR VERTICAL FILE # 2910
- 2911 **BURKINA FASO: A CASE STUDY OF THE PURDUE UNIVERSITY/SAFGRAD FARMING SYSTEMS PROJECT.** Nagy, J. (1980) West Lafayette, Ind.: Purdue University. (FSSP Case Studies Project and Population Council, USAID Contract AFR-C-1472) 90p. KEYWORDS: West Africa, Burkina Faso, SAFGRAD Farming Systems Project, programs and projects, physical features, climate, demography, regions, economy, food security, policy, research institutes, farming systems, methodology, problem identification, objectives, cropping decisions, marketing decisions, production constraints, research technology, experimentation, monitoring, socioeconomic conditions, evaluation, modification, recommendations, farmer-managed trials, sorghum, tie ridging, fertilization, millets, volta phosphate KSUL # HD2144 .N34 1980z

- 2912 **CONTRIBUTION Á L'ÉTUDE DES SYSTÉMES DE PRODUCTION EN RÉPUBLIQUE CENTRAFRICAINE: FAISABILITÉ DE L'INTRODUCTION DE LA MOTORISATION INTERMÉDIAIRE SUR UNE EXPLOITATION.** Dubernard, J. (1981) Cotton et Fibres Tropicales (Vol.36 fasc.3, p.209-225) 17p. KEYWORDS: Africa, Central African Republic, mechanization, cropping systems, crop production, cotton, maize, groundnuts, rice, management, production costs, cash flows FSR VERTICAL FILE # 2912
- 2913 **CRITERIA FOR RE-APPRAISAL AND RE-DESIGN INTRA-HOUSEHOLD AND BETWEEN-HOUSEHOLD ASPECTS OF FSRE IN THREE KENYAN AGROFORESTRY PROJECTS.** Rocheleau, D.E. (1984) (Paper presented at the Farming Systems Research and Extension Symposium, Kansas State University, Manhattan, Kansas, Oct. 7-10, 1984) (Nairobi: International Center for Research Agroforestry (ICRAF)]. 66p. KEYWORDS: Africa, East Africa, Kenya, agroforestry, methodology, ICRAF, case studies, on-farm trials, households, evaluation, project design, problem identification FSR VERTICAL FILE # 2913
- 2914 **CROP PRODUCTION IN ABDA (MOROCCO).** Primov, G. (1987) Settat, Morocco: INRA/MIAC. (Morocco Dryland Agriculture Applied Research Program under USAID Project No. 608-0136) 64p. KEYWORDS: Africa, Morocco, crop production, methodology, farm size, soils, equipment, labor, rotations, barley, durum wheat, bread wheat, maize, tillage, planting dates, planting methods, cropping patterns, seeds, fertilizers, weeds, harvesting, yields FSR VERTICAL FILE # 2914
- 2915 **DEVELOPMENTS IN PROCEDURES FOR FARMING SYSTEMS RESEARCH.** Sukmana, S. (ed.) (1989) Jakarta, Indonesia: Agency for Agricultural Research and Development. 411p. KEYWORDS: Asia, Pacific, Indonesia, on-farm research, FSR, agroforestry, horticulture, livestock, cropping systems, methodology, sustainability, extension, communication, institutionalization KSUL # S401.D38 1989; FSR VERTICAL FILE # 2915
- 2916 **EXPLOITATION AGRICOLE FAMILIALE EN AFRIQUE SOUDANO-SAHELIENNE.** Benoit-Cattin, M. (1982) Paris: Agence de Coopération Culturelle et Technique; Presses Universitaires de France. 94p. KEYWORDS: Africa, Sahel, Sudan, FSR, production, social structure, socioeconomic analysis KSUL # HD1476.S38 .B4 1982
- 2917 **FARMING SYSTEMS APPROACH TO RESEARCH IN THEORY AND PRACTICE.** Norman, D.W. (1985) s.l.: s.n., Agricultural Technology Improvement Project (ATIP) - Botswana. (Apr. 14, 1985; USAID Doc. No. PN-AAT-794) 37p. KEYWORDS: FSR, methodology, research, extension, problem identification, technology design, trials, technology transfers, on-farm testing FSR VERTICAL FILE # 2917

- 2918 **FARMING SYSTEMS RESEARCH UNIT IN BURKINA FASO: 1984 ANNUAL REPORT.** Ohm, H. (1985) West Lafayette, Ind.: Purdue University. (Semi-Arid Food Grain Research and Development Program, Contract AFR-C-1472) 123p. KEYWORDS: West Africa, Burkina Faso, crop conditions, tie ridging, fertilizers, sorghum, maize, volta phosphate, millets, participatory strategies, trials, maize-cowpea relay, millet-cowpea association, manure, sorghum, varieties, socioeconomic conditions, credit, informal credit, farmer lending, farmer borrowing, cost, capital, land tenure, stocks, cereal consumption, cereal purchases, technology transfers NOT OWNED BY KSUL
- 2919 **GUÍAS PARA LA FASE DE DIAGNÓSTICO DE LA INVESTIGACIÓN EN FINCAS CON SORGO, PARA LOS SISTEMAS DE PRODUCCIÓN LATINOAMERICANOS.** Tripp, R. (1984) (Trabajo presentado durante el taller de INTSORMIL sobre "Sorgo y Mijo en los Sistemas de Producción Latinoamericanos," Mexico, Sep. 1984) s.l.: s.n., CIMMYT Economics Program. 21p. KEYWORDS: Latin America, problem identification, sorghum, crop production, production systems
FSR VERTICAL FILE # 2919
- 2920 **LINKING FARMING SYSTEMS RESEARCH/EXTENSION (FSR/E) AND COMMODITY RESEARCH: FSR/E TEAM IDENTIFICATION OF HORTICULTURAL RESEARCH PRIORITIES.** Caldwell, J. (1987?) Blacksburg, Va.: Virginia Polytechnic Institute and State University. 26p. KEYWORDS: Africa, Gambia, extension, surveys, baseline data, interviews, horticultural crops, commodities, on-farm trials, methodology, marketing, multidisciplinary research, problem identification, commodity research
FSR VERTICAL FILE # 2920
- 2921 **LISTENING ABILITIES AND THE COMMUNICATION OF INFORMATION AMONG GROUPS OF AGRICULTURAL EXPERTS IN COUNTRIES OF SOUTH AMERICA.** Rincon, H. (1987) Lima: International Potato Center (CIP) 14p. KEYWORDS: Latin America, South America, communication, information exchange, extension, education FSR VERTICAL FILE # 2921
- 2922 **OVERVIEW OF SUSTAINABLE AGRICULTURE.** Francis, C.A. (1988) (Presented at Sustainable Agriculture in the Midwest, North Central Regional Conference, Lincoln, Nebraska, Mar. 22, 1988) Lincoln, Neb.: Univ. of Nebraska, Cooperative Extension Service, Institute of Agriculture and Natural Resources, Dept. of Agronomy. (Bound with Francis, "Agricultural Systems Research...") 6p. KEYWORDS: sustainability, research, methodology, environment, technology
FSR VERTICAL FILE # 2910

- 2923 **REPORT ON THE PRINCIPLES AND PRACTICES OF FARMING SYSTEMS RESEARCH USED BY THE FARMING SYSTEMS DEVELOPMENT PROJECT.** Lightfoot, C. (1986) (Tacloban, Leyte, Philippines: Ministry of Agriculture, Region VIII). (Farming Systems Development Project, Eastern Visayas; Report No.42, Apr. 1986) 62p. KEYWORDS: Asia, Pacific, Philippines, methodology, on-farm testing, statistical analysis, national programs and projects, soil fertility
FSR VERTICAL FILE # 2923
- 2924 **RESEARCH AGENDA FOR SUSTAINABLE AGRICULTURE.** Francis, C.A. (1988) (Presented at Sustainable Agriculture in the Midwest, North Central Regional Conference, Lincoln, Nebraska, Mar. 22, 1988) Lincoln, Neb.: Univ. of Nebraska, Cooperative Extension Service, Institute of Agriculture and Natural Resources, Dept. of Agronomy. (Bound with Francis, "Agricultural Systems Research...") 7p. KEYWORDS: sustainability, research, farming systems theory, on-farm research, recommendation domains, methodology, technology, extension
FSR VERTICAL FILE # 2910
- 2925 **STRATEGIES FOR PLANNING, MANAGING AND IMPLEMENTING FARMING SYSTEM RESEARCH IN THE HUMID TROPICS.** Agboola, A.A. (1984?) Ibadan, Nigeria: University of Ibadan, Department of Agronomy. 21p. KEYWORDS: Africa, West Africa humid tropics, planning of research, policy, problem identification, solution design, methodology, food production, objectives, technology transfers, innovation adoption, appropriate technology, cropping systems, soil fertility, conservation, management, participation
FSR VERTICAL FILE # 2925
- 2926 **SUSTAINING FOOD, INCOME, AND FAMILIES: FUTURE PERSPECTIVES ON LOW-INPUT AGRICULTURE.** Francis, C.A. (1988) (Paper presented at the Farming Systems Research/Extension Symposium, University of Arkansas, Fayetteville, Arkansas, Oct. 10, 1988) Lincoln, Neb.: Univ. of Nebraska, Cooperative Extension Service, Institute of Agriculture and Natural Resources, Dept. of Agronomy. (Bound with Francis, "Agricultural Systems Research...") 8p. KEYWORDS: sustainability, research, methodology, technology, extension, information exchange
FSR VERTICAL FILE # 2910
- 2927 **USING MODELS TO EXPLORE FARMING ALTERNATIVES.** Thornton, P.K. (1990) Agrotechnology Transfer (No.11 p.1, 6-9) KEYWORDS: models, cropping systems, GIS, alternative farming KSUL # S1 .A364

SURVEY TECHNIQUES (DESCRIPTIVE AND DIAGNOSTIC METHODS)

- 2928 **FSR GAINS A FOOTHOLD IN THE GAMBIA.** Russo, S. (1984) FSSP Farming Systems Support Project Newsletter (Vol.2 No.3, p.9-10) KEYWORDS: Africa, Gambia, FSSP, programs and projects, methodology, mixed farming, sondeos, surveys FSR VERTICAL FILE # 2928

- 2929 **IS IT THE HOUSEHOLD OR THE HOMESTEAD THAT IS THE BASIC UNIT FOR RESEARCH?: SOME CONSIDERATIONS ON DATA COLLECTION METHODOLOGY IN RURAL SWAZILAND.** Simelane, F. (1984) (Paper presented at Workshop on the Role of Rural Sociology in Farming Systems Research, Lusaka, Zambia, Nov. 27, 1984) s.l.: s.n.. 7p. KEYWORDS: Africa, Swaziland, baseline data, households, homesteads, sociological analysis, rural sociology, anthropology, extension, methodology, interviewing, small farms, socioeconomic organization, surveys
FSR VERTICAL FILE # 2929
- 2930 **METHODOLOGY FOR CONDUCTING RECONNAISSANCE SURVEYS IN AFRICA.** Frankenberger, T. (1986) Farming Systems Newsletter (Apr.-June No.25 p.11-27) KEYWORDS: Africa, surveys--short term, methology, sondeos, interviews, rapid rural appraisal
FSR VERTICAL FILE # 2930
- 2931 **MOROCCO: APPLIED RESEARCH PROGRAMS FOR DRYLAND FARMING.** (1985) Lincoln, Neb.: Institute of Agriculture and Natural Resources, University of Nebraska. (Report to the Agency for International Development, Department of State, MidAmerica International Agricultural Consortium (MIAC) Project 608-0136, Contract Number AID/NE-C-1666) 30p. KEYWORDS: Africa, Morocco, dry farming, programs and projects, cereal agronomy, forage agronomy, soil management, soil fertility, cereal breeding, weed science, pest control, station management, equipment, social science, recommendations, seeding, livestock, water conservation
FSR VERTICAL FILE # 2931
- 2932 **RURAL SOCIOLOGY AND TECHNOLOGY GENERATION FOR SUBSISTENCE FARMING SYSTEMS: A ZAMBIAN EXAMPLE.** Sutherland, A.J. (1984) (Paper prepared for ARPT/CIMMYT Rural Sociology Networkshop, Lusaka, Zambia, Nov. 27-29, 1984) Lusaka, Zambia: Ministry of Agriculture and Water Development, Mount Makulu Central Research Station. 22p. KEYWORDS: Africa, Zambia, rural sociology, subsistence farming, farmers' attitudes, appropriate technology, communities, sociological analysis, surveys, ethnic groups, maize, millets, sorghum, draught animals, methodology, baseline data, problem identification
FSR VERTICAL FILE # 2932

DESIGN OF IMPROVED TECHNOLOGY

- 2933 **DESARROLLO DE TECNOLOGÍA PARA SISTEMAS DE PRODUCCIÓN AGRÍCOLA: ENFOQUE METODOLÓGICO Y APLICACIÓN.** Escobar, G. (1984) Turrialba, Costa Rica: Centro Agronómico Tropical de Investigación y Enseñanza (CATIE). 38p. KEYWORDS: Latin America, Central America, Guatemala, Honduras, Costa Rica, Nicaragua, El Salvador, Panama, technology development, production, methodology
KSUL # S494.5.I5 E83 1984

2934 **EVALUATION OF POLICY IMPACTS AT THE ABDA REGION LEVEL OF SAFI PROVINCE.** Rafsnider, G. (1988) Settat, Morocco: MidAmerica International Agricultural Consortium-Morocco Project Aridoculture Center. (MIAC Agric. Econ. Info. Rpt. No. 10) 8p. KEYWORDS: Africa, Morocco, Safi province, policy, case studies, methodology, linear models, insect resistance, fertilizers, policy changes, wheat, data FSR VERTICAL FILE # 2934

TESTING

2935 **ANÁLISIS DE RIESGO EN EL CONTEXTO DE LA INVESTIGACIÓN EN FINCAS DE AGRICULTORES.** Sain, G.E. (1984) (Trabajo presentado ante la Conferencia sobre Sorgo y Mijo en los Sistemas de Producción Latinoamericanos s.l.: G.E. Saín, CIMMYT Economics Program. 36p. KEYWORDS: risk analysis, sorghum, environmental factors, testing, evaluation, technology analysis, production systems FSR VERTICAL FILE # 2935

2936 **CONSIDERATIONS ECONOMIQUES LIÉES AUX EXPERIMENTATIONS CHEZ LES AGRICULTEURS.** Driouchi, A. (1988) (Meknes, Morocco: Professor, Department D'Economie Rurale, Ecole Nationale D'Agriculture). (Guide Numero 4 Pour L'Analyse en Economie Rurale; Working Paper, February, 1988; poor photocopy) 11p. KEYWORDS: Africa, North Africa, Morocco, trials, economic evaluation FSR VERTICAL FILE # 2936

2937 **ECONOMIC PERFORMANCE OF TEN DURUM WHEAT VARIETIES IN GRAIN PRODUCTION IN THE 1984-85 CROP YEAR.** Rafsnider, G. (1986) Settat, Morocco: MidAmerica International Agricultural Consortium-Morocco Project Aridoculture Center. (MIAC Agric. Econ. Info. Rpt. No. 1) 3p. KEYWORDS: Africa, Morocco, durum wheat, grain production, plant breeding, MIAC-INRA study, statistics, dryland production, research, economic analysis, risks, fertilizer FSR VERTICAL FILE # 2937

2938 **EVALUACION AGRONOMICA DE ENSAYOS A NIVEL DE FINCA.** Wooley, J. (1984) (Preparado para el taller sobre Sistemas Agrícolas del Programa de Sorgos y Mijos en Latinoamérica, CIMMYT, Sep. 17-21, 1984) Cali, Colombia: Centro Internacional de Agricultura Tropical (CIAT). 32p. KEYWORDS: on-farm testing, evaluation, experimental design FSR VERTICAL FILE # 2938

2939 **FARMING SYSTEMS RESEARCH AND DEVELOPMENT.** Lindsay, B.W. (1983) (Report Der Season 1983) s.l.: s.n., 27p. KEYWORDS: Africa, Somalia, target selection, methodology, farmer testing, on-farm trials, baseline data, surveys, extension, farming systems research, planning of research, seed testing, problem identification, development projects FSR VERTICAL FILE # 2939

- 2940 **ON-FARM RESEARCH IN SWAZILAND: RESPONSES TO UNIQUE FARM PRESSURES.** Dlamini, S.M. (1987) (Paper prepared for Farming Systems Research Symposium, Kansas State University, Manhattan, Kansas, Oct. 18-21, 1987) Mbabane, Swaziland: Ministry of Agriculture and Cooperatives, Swaziland Swaziland Cropping System and Extension Training Project. 9p. KEYWORDS: Africa, Swaziland, national programs and projects, objectives, problem identification, on-farm testing, planning of research, food production, extension, technology transfers, personnel, training, diffusion of information, coordination, methodology
FSR VERTICAL FILE # 2940
- 2941 **PRODUCER EVALUATION OF SEED DRILLING.** Herzenni, A. (1987?) s.l.: s.n., 3p. KEYWORDS: Africa, North Africa, Morocco, on-farm trials, sowing methods, evaluation FSR VERTICAL FILE # 2941
- 2942 **PRODUCER EVALUATION OF IMPROVED BARLEY (TAMALLALT 1703).** Herzenni, A. (1988?) s.l.: s.n., 4p. KEYWORDS: Africa, North Africa, Morocco, barley, on-farm trials, evaluation, hybrids, project design
FSR VERTICAL FILE # 2942
- 2943 **PRODUCER EVALUATION OF TRITICALE JUANILLO 97.** Primov, G. (1988) (Transect Study) s.l.: s.n., 7p. KEYWORDS: Africa, North Africa, Morocco, cereals, triticale, evaluation, on-farm trials, cropping systems, hybrids, project design NOT OWNED BY KSUL
- 2944 **PRODUCER EVALUATION OF TRITICALE JUANILLO 97.** Primov, G. (1988) s.l.: s.n., (Abda Study, Second Year) 7p. KEYWORDS: Africa, North Africa, Morocco, cereals, triticale, evaluation, on-farm trials, cropping systems, hybrids, project design FSR VERTICAL FILE # 2944
- 2945 **PRODUCER EVALUATION OF BREAD WHEAT SD 8036.** Primov, G. (1988?) s.l.: s.n., 4p. KEYWORDS: Africa, North Africa, Morocco, wheat, evaluation, project design, hybrids, Hessian fly, on-farm trials
FSR VERTICAL FILE # 2945

FSR METHODOLOGY EXTENSION AND TRANSFER

- 2946 **CONTRIBUTION A L'ANALYSE DE QUELQUES ASPECTS METHODOLOGIQUES DE LA RECHERCHE SUR LES RELATIONS AGRICULTURE - ELEVAGE.** Berthe, A. (1985) (L'experience de la D.R.S.P.R. en Zone Mali-Sud) (Bamako, Mali: Zootechnicien, Division de Recherches sur les Systemes de Production Rurale, Institut d'Economie Rurale, Ministere de l'Agriculture). 22p. KEYWORDS: Africa, West Africa, Mali, methodology, livestock production, pastoralism, cultural environment
FSR VERTICAL FILE # 2946

- 2947 **NILE VALLEY PROJECT: A MODEL OF COOPERATION BETWEEN INTERNATIONAL AND NATIONAL PROGRAMS IN RESEARCH AND EXTENSION.** Hawtin, G.C. (1984) (Paper presented at the Fourth Annual Farming Systems Research and Extension Symposium, Kansas State University, October 7-10, 1984) International Center for Agricultural Research in Dry Areas (ICARDA), Aleppo, Syria. 15p. KEYWORDS: Africa, North Africa, Nile Valley, Sudan, Egypt, ICARDA, Nile Valley Project, faba beans, cropping systems, extension, project implementation, budget formulation, project design, monitoring, extension, cost effectiveness FSR VERTICAL FILE # 2947
- 2948 **ON FARM TRIALS 1977/79.** IN: Studies of Farming Systems in Syria, 1977-79 (1980) Norwich, England: ICARDA Farming Systems Research Programme, Overseas Development Group, Univ. of East Anglia. (Manuals and Reports in Development Studies Vol.4 no.10; originally produced as ICARDA Research Report No. 8) 82p. KEYWORDS: Asia, Middle East, Syria, farming systems research, FSR, on-farm research, wheat, fertilizers, nitrogen KSUL # S471.S95 S78 1984
- 2949 **RECOMMENDATIONS FOR A STRENGTHENED AGRICULTURAL EXTENSION PROGRAM IN EGYPT.** (1981) Washington, D.C.: U.S. Agency for International Development. (Increasing Agricultural Production Through More Effective Use of Technology) 55p. KEYWORDS: Africa, North Africa, Egypt, extension, agricultural history, agricultural production, rural life, technology application, natural resources, human resources, institutional resources, recommendations, environment, nutrition, families, women FSR VERTICAL FILE # 2949
- 2950 **RESEARCH AND EXTENSION LINKAGE - THE CASE OF KENYA.** Anandajayasekeram, P. (1984) (Paper presented at the Farming Systems Research and Extension Symposium, Kansas State University, Manhattan, Kansas, Oct. 7-10, 1984) Nairobi: International Maize and Wheat Improvement Center (CIMMYT) Eastern African Economics Program. 20p. KEYWORDS: Africa, East Africa, Africa, Kenya, extension, technology transfers, on-farm research, recommendations FSR VERTICAL FILE # 2950
- 2951 **SCIENTIFIC REVIEW PANEL REPORT, INRA-MIAC, 4-8 MAY, 1987.** (1987) Settat, Morocco: Institut National de la Recherche Agronomique. (Dryland Farming Applied Research Project, INRA-MIAC, Programme Aridoculture, USAID Project No. 608-0136) 23p. KEYWORDS: Africa, Morocco, INRA-MIAC research, cereal production, soil management, crop management, fertilizer application, weed control, crop physiology, cereal agronomy, farm research strategy, technology transfers, feed supply, livestock, rotations, cropping systems FSR VERTICAL FILE # 2951

- 2952 **WOMEN FARMERS AND FOOD IN AFRICA: SOME CONSIDERATIONS AND SUGGESTED SOLUTIONS.** Spring, A. (1986) IN: Food in Sub-Saharan Africa Boulder, Colo.: Lynne Rienner Publishers, Inc. (p.332-348) KEYWORDS: Africa, women in agriculture, food production, rural women, roles, households, problem identification, women in development, labor, division of labor, small farms, land tenure, migration, livestock, food supply, income, diffusion of information, curriculum, technology transfers, programs and projects, extension, credit, training, inputs, woman's status, policy, baseline data, capital, appropriate technology, food crops, small ruminants KSUL # HD9017.S82 F66 1986; FSR VERTICAL FILE # 2952

SYSTEMS ANALYSIS

- 2953 **INTEGRATING LIVESTOCK INTO FARMING SYSTEMS RESEARCH: AN EXAMPLE FROM NORTH KORDOFAN, SUDAN.** Frankenberger, T.R. (1986) Human Organization (Vol.45 No.3 p.228-238) KEYWORDS: Africa, Sudan, Sahel, INTSORMIL, farming systems research, tenure systems, grazing tenancy, livestock, economic analysis, desertification, animal husbandry, mixed farming, resources, resource conservation, environmental factors, range management, cooperation, farmers' attitudes, systems analysis KSUL # GN1 .H83
- 2954 **LAND EVALUATION AND FARMING SYSTEMS ANALYSIS FOR LAND USE PLANNING.** Fresco, L. (1990) Rome: Food and Agriculture Organization of the U.N. (FAO). (FAO Guidelines: Working Document) 208p. KEYWORDS: land evaluation, land use planning, farming systems, analysis, food supply, Sri Lanka, regional planning, LEFSA, socioeconomic conditions, agro-ecological zonation, FSR, optimization, data collection, data interpretation, relational data bases, GIS, models, linear programming, expert systems, planning limitations, Indonesia, surveys KSUL # HD108.6 .L357 1990
- 2955 **PROPOSITION D'UN PROGRAMME NATIONAL A LONG TERME DE RECHERCHE AGRICOLE.** Programme de Developpement de la Recherche Agricole en Tunisie: (Vol.3) Tunisia, Ministry of Agriculture. (1987) The Hague: International Service for National Agricultural Research. 126p. KEYWORDS: Africa, Tunisia, development programs, agricultural research, national programs and projects, planning, territorial allotments, technology, program implementation, five-year plans, investment, cereals, legumes, industries--cultural, markets--cultural, vegetables, arboriculture, irrigation, machinery FSR VERTICAL FILE # 2955

2956 **RESEARCH ON THE RURAL ECONOMIES OF SUB-SAHARAN AFRICA: A CRITICAL SURVEY.** Eicher, C.K. (1982) East Lansing, Mich.: Michigan State Univ., Dept. of Agricultural Economics. (MSU International Development Papers, 1) 335p. KEYWORDS: Africa, Sahel, history, policy, agricultural economics, models, programs and projects, small farms, prices, marketing, economic analysis, land tenure, labor, surveys, technology, crops, soil fertility, fertilizers, cropping systems, irrigation, mechanization, extension, FSR, animal traction, livestock production, animal husbandry, trade, credit, consumption, storage, nutrition, cooperatives, migration, employment, planning of research, women in development, industry, fisheries, evaluation, objectives
KSUL # HD2117 .E36 1982; FSR VERTICAL FILE # 2956

2957 **WHAT KIND OF FARMING SYSTEMS RESEARCH? SOME ALTERNATIVE MODELS AND THEIR IMPLICATIONS FOR THE FARMING SYSTEMS IMPROVEMENT PROJECT (FSIP) OF RWANDA.** Voth, D.E. (1987?) Fayetteville, Ark.: Dept. of Agricultural Economics and Rural Sociology, Univ. of Arkansas. 17p. KEYWORDS: Africa, Rwanda, models, FSIP, evaluation, research philosophy, methodology FSR VERTICAL FILE # 2957

INSTITUTIONAL FACTORS IN IMPLEMENTATION OF FARMING SYSTEMS RESEARCH

2958 **1988 SCIENTIFIC REVIEW INRA/MIAC.** (1988) Settat, Morocco: MidAmerica International Agricultural Consortium-Morocco Project Aridoculture Center. 5p. KEYWORDS: Africa, North Africa, Morocco, programs and projects, national programs and projects, dry farming, project design, evaluation, agricultural research
FSR VERTICAL FILE # 2958

2959 **ADJUSTING THE INSTITUTIONAL ENVIRONMENT OF RISK AND UNCERTAINTY: IMPLICATIONS FOR AGRICULTURAL POLICY IN MALAWI.** Phiri, C.D. (1986) Agricultural Administration (Vol.23 p.45-59) KEYWORDS: Africa, Malawi, risk analysis, institutions, agricultural policy
KSUL # HD1401 .A36

2960 **AFRICA BUREAU AGRICULTURAL RESEARCH STRATEGY PAPER.** (1983) (Washington: U.S. Agency for International Development, Africa Bureau, Office of Technical Resources, Agriculture and Rural Development Division). (Apr. 4, 1983) 13p. KEYWORDS: Africa, USAID, planning of research, institution building, NARS NOT OWNED BY KSUL

- 2961 **AGRICULTURAL RESEARCH IN THE PRIVATE SECTOR IN AFRICA: THE CASE OF KENYA.** Hobbs, S.H. (1987) The Hague: International Service for National Agricultural Research (ISNAR). (Working Paper No.8, Dec. 1987) 21p. KEYWORDS: Africa, East Africa, Kenya, agricultural research, private sector, private organizations, case studies, evaluation, institutions KSUL # S542.K4 H62 1987 FSR VERTICAL FILE # 2961
- 2962 **ANNUAL REPORT.** (1986) (Corvallis, Ore.: Tanzania FSR Project, Oregon State Univ.). (Farming Systems Research Project (Tanzania) Annual Report, Project Year III, Jan. 1 - Dec. 31, 1985; Publication No.118, Feb. 1986; USAID Contract AFR-0156-C-00-3033-00) 56p. KEYWORDS: Africa, Tanzania, programs and projects, annual reports KSUL # S473.T35 F37 1985
- 2963 **ANNUAL REPORT 1982-83.** Zambia. Adaptive Research Planning Team. (1983) Chilanga, Zambia: Department of Agriculture, Research Branch. 22p. KEYWORDS: Africa, Zambia, national programs and projects, socioeconomic analysis, FSR, on-farm testing, problem identification, evaluation, maize, groundnuts, rice, fertilizers, sunflowers, sorghum, beans, intercropping, appropriate technology, draught animals, mulching, millets, cassava, weeding, labor, planting methods, extension, methodology FSR VERTICAL FILE # 2963
- 2964 **BASELINE INFORMATION FOR ARIDOCULTURE PROJECT IMPACT EVALUATION.** (1988) Settat, Morocco: (Mid-America International Agricultural Consortium). (MIAC Project) 6p. KEYWORDS: Africa, North Africa, Morocco, programs and projects, dry farming, rain-fed farming, technology transfers, baseline data, cereals, legumes, arid regions, evaluation FSR VERTICAL FILE # 2964
- 2965 **BEYOND THE PROJECT: THE QUEST FOR SUSTAINABILITY IN THE THIRD WORLD.** Gow, D. (1988) (Paper presented at the symposium Sustainable Development: In Search of Lasting Solutions, John F. Kennedy School of Government, Harvard University, April 22-23) Washington: Development Strategies for Fragile Lands (DESFIL). 38p. KEYWORDS: sustainability, research, development theory, environment, technology, institutions FSR VERTICAL FILE # 2965
- 2966 **BRIEFING FOR BIFAD MEMBERS ON AID-AFRICA BUREAU'S AGRICULTURAL, RESEARCH STRATEGY.** Johnson, W.F. (1984) s.l.: s.n. 7p. KEYWORDS: Africa, USAID, BIFAD, planning of research, institution building FSR VERTICAL FILE # 2966

- 2967 **CHANGING DYNAMICS OF GLOBAL AGRICULTURE.** Javier, E. (1988) (A Seminar/Workshop on Research Policy Implications for National Agricultural Research Systems, DSE/ZEL Feldafing, Germany, Sep. 22-28, 1988) The Hague: International Service for National Agricultural Research (ISNAR). 378p. KEYWORDS: research policy, research, research centers, ISNAR, national programs and projects, food policy, food surpluses, economic growth, sustainability, institution building, NARS, information exchange, research funding KSUL # S539.7 .C47 1988
- 2968 **DESIGN, IMPLEMENTATION, EVALUATION, AND EVOLUTION OF THE NATIONAL FARMING SYSTEMS RESEARCH OF NIGER.** Deuson, R.R. (1987) (Paper presented at the Workshop on Farming Systems Research for Limited Resource Farms, Alabama A & M Univ., Normal, Alabama, Aug. 10-12, 1987) Niamey: Institut National de Recherches Agronomiques du Niger (INRAN) 21p. KEYWORDS: Africa, West Africa, Niger, implementation of research, evaluation, national programs and projects, on-farm trials, cereals, millets, grain legumes, forage crops, cowpeas FSR VERTICAL FILE # 2968
- 2969 **DEVELOPMENT OF AFRICAN FARMING SYSTEMS: SOME PERSONAL VIEWS.** Collinson, M. (1988) IN: Agricultural Administration and Extension (Vol.29 p.7-22) 16p. KEYWORDS: Africa, East Africa, Southern Africa, Ethiopia, Kenya, Zambia, history, institution building, FSR, changes, policy, CIMMYT, programs and projects, education, agricultural economics, evaluation, innovation adoption, coordination KSUL # HD1401 .A36
- 2970 **EDUCATIONAL AND TRAINING OPPORTUNITIES IN ORGANIC, LOW INPUT OR SUSTAINABLE AGRICULTURE.** Gates, J.P. (1989) Beltsville, Md.: U.S. Department of Agriculture, National Agricultural Library, Alternative Farming Systems Information Center. (Aug. 1989) 14p. KEYWORDS: directories, sustainability, alternative farming, organic farming, conservation, education, training SuDoc # A17.2Ed 8.989; FSR VERTICAL FILE # 2970
- 2971 **END-OF-PROJECT EVALUATION: SIERRA LEONE ADAPTIVE CROP RESEARCH AND EXTENSION PROJECT (636-0102).** (Draft) (1987) s.l.: s.n. 59p. KEYWORDS: Africa, Sierra Leone, programs and projects, extension, evaluation, problem identification, USAID, crop production, income, nutrition, sweet potatoes, rice, cassava, maize, technology transfers, recommendations, planning of research, objectives, methodology, analysis, research centers, national programs and projects, women in agriculture FSR VERTICAL FILE # 2971

- 2972 **EVALUATION OF THE GWEMBE SOUTH DEVELOPMENT PROJECT, ZAMBIA.** Scudder, T. (1982) Binghamton, N.Y.: Institute for Development Anthropology. (IDA Working Paper Series) 48p. KEYWORDS: Africa, Zambia, programs and projects, evaluation, rural development, research institutes, planning of research, objectives, dry farming, irrigation, livestock, personnel, training, fishing, institution building, alternative technology, infrastructure
FSR VERTICAL FILE # 2972
- 2973 **FARMING SYSTEMS RESEARCH AND EXTENSION: AN APPROACH TO SOLVING FOOD PROBLEMS IN AFRICA.** Fresco, L.O. (1986) Food in Sub-Saharan Africa Boulder, Colo.: Lynne Rienner Publishers, Inc. (p.305-331) KEYWORDS: Africa, Francophone research, Anglophone research, FSR, research institutes, history, appropriate technology, food crops, food production, planning of research, institution building, environment, objectives, programs and projects, small farms, constraints, innovation adoption, methodology, extension, food supply, farmer testing, multidisciplinary research, universities, infrastructure, personnel, women in agriculture KSUL # HD9017.S82 F66 1986; FSR VERTICAL FILE # 2973
- 2974 **FARMING SYSTEMS RESEARCH AND EXTENSION ACTIVITIES AROUND THE WORLD - A RESULTS INVENTORY.** McArthur, H.J. (1989) Culture and Agriculture (Spring/Summer No.38 p.11-19; 9p. KEYWORDS: Asia, Latin America, Africa, Indonesia, Guatemala, Botswana, evaluation, programs and projects, sustainability, institutions FSR VERTICAL FILE # 2974; KSUL # HT401 .C85
- 2975 **FRAMEWORK FOR ASSESSING FARMING SYSTEMS ACTIVITIES IN NATIONAL SETTINGS IN WEST AFRICA: WITH SPECIAL REFERENCE TO SENEGAL, AND NIGERIA.** Baker, D. (1986) (Paper prepared for the West African Farming Systems Research Networkshop, Mar. 11-14, 1986, Dakar, Senegal) Gaborone, Botswana: Agricultural Technology Improvement Project. (ATIP MP 86-1) 26p. KEYWORDS: Africa, West Africa, Senegal, Nigeria, objectives, programs and projects, research policy, planning of research, methodology, ATIP, national programs and projects, research institutes, institution building, changes
FSR VERTICAL FILE # 2975
- 2976 **FSR/E: SHIFTING THE INTERSECTION BETWEEN RESEARCH AND EXTENSION.** Johnson, S.H. (1986) Agricultural Administration (Vol.21 p.81-93) KEYWORDS: Africa, Zambia, extension, FSR, appropriate technology, organizational structures, technology transfers, institution building, methodology, diffusion of information, education KSUL # HD1401 .A36

- 2977 **GHANA'S TRADITION MAKERS: CHANGING PATTERNS IN FOOD CROPS RESEARCH, EXTENSION, AND PRODUCTION.** Russell, N.C. (1989) CIMMYT Today, No.19, 29p. Mexico, D.F.: International Maize and Wheat Improvement Center (CIMMYT). KEYWORDS: Africa, West Africa, Ghana, extension, food production, food crops, maize, cassava, sorghum, intercropping, monocropping, on-farm research FSR VERTICAL FILE # 2977
- 2978 **GUIDELINES FOR STRENGTHENING NATIONAL AGRICULTURAL RESEARCH SYSTEMS IN SUB-SAHARAN AFRICA.** (1987) Washington: International Bank for Reconstruction and Development/The World Bank; International Service for National Agricultural Research (ISNAR). (Special Program for African Agricultural Research, SPAAR) 28p. KEYWORDS: Africa, food security, history, problem identification, objectives, national programs and projects, institution building, planning of research, personnel, training, policy, extension, information, evaluation, income, employment, environment, sustainable agriculture, management, diffusion of information, applied research, international cooperation
KSUL # S542.A426 G85 1987; FSR VERTICAL FILE # 2978
- 2979 **HISTORY OF DEVELOPMENT IN THE TWENTIETH CENTURY: THE ZAMBIAN PORTION OF THE MIDDLE ZAMBEZI VALLEY AND THE LAKE KARIBA BASIN.** Scudder, T. (1985) Worcester, Mass.: Clark University and Institute for Development Anthropology, Binghamton, N.Y. (Cooperative Agreement on Human Settlement and Natural Resource Systems Analysis) 84p. KEYWORDS: Africa, Zambia, history, national programs and projects, problem identification, evaluation, rural development FSR VERTICAL FILE # 2979
- 2980 **HUMAN CAPITAL, AGRICULTURAL DEVELOPMENT AND THE AFRICAN FOOD CRISIS.** Ames, G.C.W. (1988) Agricultural Administration and Extension (Vol.28 p.1-17) KEYWORDS: Africa, food shortages, human resources, productivity, agricultural policy, NARS, IARCs, agricultural research, education, training, extension, institution building, donor agencies KSUL # HD1401 .A36
- 2981 **IDENTIFICATION OF RESULTS OF FARMING SYSTEMS RESEARCH AND EXTENSION ACTIVITIES: A SYNTHESIS.** Frankenberger, T.R. (1989) Culture and Agriculture (No.38 Spring/Summer p.8-11) KEYWORDS: evaluation, implementation of research, programs and projects, institutions
FSR VERTICAL FILE # 2981
- 2982 **IMPACT OF THE COLLABORATION BETWEEN THE INTERNATIONAL, AGRICULTURAL RESEARCH SYSTEM AND THE NATIONAL AGRICULTURAL SYSTEM IN MALAWI.** Billing, K.J. (1984) (Draft) s.l. s.n., 108p. KEYWORDS: Africa, Malawi, institutions, linkages, national programs and projects, agricultural research centers FSR VERTICAL FILE # 2982

- 2983 **IMPACT ASSESSMENT OF INTERNATIONAL AGRICULTURAL RESEARCH CENTRES.** Jahnke, H.E. (1986) Agricultural Administration (Vol.22 p.175-196) 22p. KEYWORDS: IARCs, evaluation, agricultural research, institutions, programs and projects, information exchange, innovation adoption
FSR VERTICAL FILE # 2983
- 2984 **IMPACT OF CROPPING SYSTEMS RESEARCH IN INDONESIA.** Siwi, B.H. (1986) s.l.: Central Research Institute for Food Crops (CRIFC), Indonesia; International Development Research Centre (IDRC), Canada. 30p. KEYWORDS: Asia, Pacific, Indonesia, cropping systems, rice, irrigated farming, dry farming, national programs and projects, institutions
FSR VERTICAL FILE # 2984
- 2985 **IMPLEMENTATION LETTER NO. 7: DRYLAND AGRICULTURE APPLIED RESEARCH PROJECT 608-0136.** Johnson, C. (1988?) Rabat, Morocco: U.S. Agency for International Development. (USAID Project 608-0136, Includes Project Paper Supplement) 12p. KEYWORDS: Africa, North Africa, Morocco, programs and projects, baseline data, evaluation, technology transfers, innovation adoption, project design, dry farming, training, technology development, extension
FSR VERTICAL FILE # 2985
- 2986 **INRA-MIAC DRYLAND FARMING APPLIED RESEARCH PROJECT.** Keith, D. (ed.) (1988) (Scientific Review Panel Report) Stillwater, Okla.: Dept. of Agronomy, Oklahoma State Univ.. (Includes Materials from the Project Paper Supplement, 65p.; USAID Project No. 608-0136) 45p. KEYWORDS: Africa, North Africa, Morocco, plant breeding, cereal breeding, plant pathology, programs and projects, MIAC, agricultural economics, evaluation, rural sociology
FSR VERTICAL FILE # 2986
- 2987 **INSTITUTIONAL CONSTRAINTS ON THE TRANSFER OF AGRICULTURAL AND COMPLEMENTARY RESOURCE-CONSERVATION TECHNOLOGIES APPROPRIATE FOR SEMI-ARID AFRICA.** Thomson, J.T. (1987) Burlington, Vt.: Associates in Rural Development, Inc. (USAID Contract No.PDC-0000-I-00-4104-00, Work order 11; Apr. 1987) 97p. KEYWORDS: Africa, semiarid zones, technology transfers, conservation, constraints, appropriate technology, political economy, tenure systems, land tenure, legal systems, marketing, finance, infrastructure
FSR VERTICAL FILE # 2987
- 2988 **INSTITUTIONALIZING RURAL SOCIOLOGY INTO AGRICULTURAL RESEARCH - THE ZAMBIA CASE STUDY.** Kean, S. (1984) (Working Paper presented at ARPT/CIMMYT Rural Sociology Networkshop, Lusaka, Zambia, Nov. 27-29, 1984) s.l.: s.n. 22p. KEYWORDS: Africa, Zambia, rural sociology, agricultural research, multidisciplinary research, social anthropology, anthropology, methodology, institution building, technology, innovation adoption, appropriate technology, planning of research, national programs and projects, constraints
FSR VERTICAL FILE # 2988

- 2989 **LESOTHO FARMING SYSTEMS RESEARCH PROJECT.** Byrnes, K.J. (1987) (Draft) Washington: U.S. Agency for International Development (USAID). (USAID Project No.632-0065) 17p. KEYWORDS: Africa, Lesotho, programs and projects, evaluation FSR VERTICAL FILE # 2989
- 2990 **MATHEMATICAL MODELS IN SCOPE OF WORK FOR SCIENTIFIC PANEL.** Rafsnider, G. (1988) (Washington, D.C.: MidAmerica International Agricultural Consortium). (Reference to memo by R.B. Stryker, USAID-Rabat) 4p. KEYWORDS: Africa, Morocco, programs and projects, evaluation, project design, MIAC, national programs and projects, mathematical models, technology FSR VERTICAL FILE # 2990
- 2991 **NATIONAL AGRICULTURAL RESEARCH SYSTEM OF RWANDA.** ISNAR (1983) s.l.: International Service for National Agricultural Research (ISNAR). (ISNAR R9e; Report to the Government of the Republic of Rwanda) 9p. KEYWORDS: Africa, Rwanda, institutions, national programs and projects, information exchange, communication, education KSUL # S542.R87 N314 1983 FSR VERTICAL FILE # 2991
- 2992 **NATIONAL AGRICULTURAL RESEARCH PROGRAMMES IN SAHELIAN COUNTRIES OF WEST AFRICA: PROBLEMS AND RECOMMENDATIONS.** Nwanze, K.F. (1988) Agricultural Administration and Extension (Vol.28 p.227-238, submitted as JA No. 694 by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)) 12p. KEYWORDS: Africa, West Africa, Sahel, national programs and projects, food production, agricultural productivity, technical assistance, training KSUL # HD1401 .A36
- 2993 **ORGANIZATION AND STRUCTURE OF ARAB NATIONAL AGRICULTURAL RESEARCH SYSTEMS.** Hariri, Ghazi (1990) The Hague: International Service for National Agricultural Research (ISNAR). (Working Paper No.31, May 1990) 62p. KEYWORDS: North Africa, West Asia, Middle East, Arab countries, national programs and projects, institutions, organizational structures, agricultural research, management KSUL # S542.A65 H27 1990
- 2994 **ORGANIZATION AND STRUCTURE OF NATIONAL AGRICULTURAL RESEARCH SYSTEMS: SELECTED PAPERS FROM THE 1989 INTERNATIONAL AGRICULTURAL RESEARCH MANAGEMENT WORKSHOP. ISNAR.** (1990) The Hague: International Service for National Agricultural Research (ISNAR). 42p. KEYWORDS: national programs and projects, institutions, agricultural research, organizational structures, management KSUL # S542.A2 O73 1990

- 2995 **PERSPECTIVES OF THE UNIVERSITIES.** Wilken, G.C. (1989) (Paper presented at the Title XII Regional Seminar, Fort Collins, Colorado, Jan. 26-27, 1989) Fort Collins, Colo.: Dept. of Earth Resources, Colorado State University (BIFAD Workshop: Implementing BIFAD Strategy on Sustainable Agriculture) 9p. KEYWORDS: sustainability, research, institutions, technology, problem identification
FSR VERTICAL FILE # 2995
- 2996 **PLACE OF AGROFORESTRY SYSTEMS IN THE TROPICAL FARMING SYSTEMS RESEARCH: THE CASE OF INITIATED AGROFORESTRY FARMING SYSTEMS RESEARCH AND DEVELOPMENT PROGRAM IN GHANA.** Owusu-Bempah, K. (1986) (Paper submitted for the Farming Systems Research and Extension Symposium, Kansas State University, Manhattan, Kansas, Oct. 5-8, 1986) Mampong-Ashanti, Ghana: Rural Agroforestry and Forestry for Development Programs, 20p. KEYWORDS: Africa, West Africa, Ghana, programs and projects, agroforestry
FSR VERTICAL FILE # 2996
- 2997 **PROCEEDINGS OF A WORKSHOP ON SAHELIAN AGRICULTURE.** (1979) (Papers prepared for Workshop on Sahelian Agriculture, West Lafayette, Ind., Purdue University, Department of Agricultural Economics, Feb. 1-2, 1979) (USAID Contracts AFR-C-1257 & 1258) 497p. KEYWORDS: Africa, West Africa, Sahel, Chad, Mali, Burkina Faso, Senegal, USAID, dry farming, programs and projects, data collection, analysis, sorghum, millets, models, farmers' attitudes, irrigation, cost benefit analysis, women in development, evaluation, methodology
NOT OWNED BY KSUL
- 2998 **RECOMMENDATIONS AND RESOLUTIONS ADOPTED BY THE PARTICIPANTS OF THE INTERNATIONAL WORKSHOP ON SUSTAINABLE LAND USE SYSTEMS.** (1990) (Kutztown, Penn.: Rodale Research Center). (Workshop Working Group on Sustainable Land Use Systems Research, New Delhi, India, Feb. 16, 1990) 4p. KEYWORDS: land use, sustainability, research, policy
FSR VERTICAL FILE # 2998
- 2999 **REPORT OF THE JOINT IFAD AND MINISTRY OF COOPERATION (FRANCE) REVIEW MISSION OF THE OAU/STRC/SAFGRAD FARMING SYSTEMS RESEARCH PROGRAMME.** (1987) Rome: International Fund for Agricultural Development (IFAD). (IFAD TA 110, Nov.-Dec. 1987) 45p. KEYWORDS: Africa, Burkina Faso, Benin, Cameroon, semiarid zones, SAFGRAD, OAU, programs and projects, FSR, evaluation, international cooperation, planning of research, objectives, evaluation, institution building, data collection, training, recommendations, food production, animal husbandry, agroforestry, varietal trials, agricultural economics
FSR VERTICAL FILE # 2999

- 3000 **ROLE OF INTERNATIONAL AGRICULTURAL RESEARCH CENTERS IN AFRICA.** Plucknett, D.L. (1986) IN: Food in Sub-Saharan Africa Boulder, Colo.: Lynne Rienner Publishers, Inc.. (p.292-303) KEYWORDS: Africa, CGIAR, research institutes, history, technology, food crops, food production, hybrids, disease resistance, livestock production, marketing systems, management, animal diseases, germplasm, policy, technology transfers, training, diffusion of information, yields, institution building, environment, objectives, surveys, programs and projects, organizational structures, international cooperation KSUL # HD9017.S82 F66 1986 FSR VERTICAL FILE # 3000
- 3001 **ROLE OF A COUNTRY PROJECT IN AGRICULTURAL DEVELOPMENT.** Potts, M.J. (1985) Agricultural Administration (Vol.20 p.63-71) KEYWORDS: national programs and projects, programs and projects, administration, funding KSUL # HD1401 .A36
- 3002 **SENEGAL AGRICULTURAL RESEARCH AND PLANNING PROJECT.** (Draft) Byrnes, K. (1988?) Washington: U.S. Agency for International Development (USAID). (USAID Project No.685-0223) 16p. KEYWORDS: Africa, Senegal, USAID, programs and projects, national programs and projects, ISPA, institution building, production systems, evaluation, agricultural research, policy, appropriate technology, training FSR VERTICAL FILE # 3002
- 3003 **SMALL FARMER PRODUCTION SYSTEMS.** Byrnes, K.J. (1987) (Draft) Washington: U.S. Agency for International Development (USAID). (USAID Project No.596-0083) 20p. KEYWORDS: Latin America, Central America, Costa Rica, programs and projects, evaluation, USAID, CATIE, small farmers, production systems, research institutes, institution building, training, technology transfers FSR VERTICAL FILE # 3003
- 3004 **SMALL-FARM SYSTEMS RESEARCH IN CISKEI.** Rose, C.J. (1984) Development Southern Africa (Vol.1 No.2 p.166-179) KEYWORDS: Africa, South Africa, programs and projects, small farms, extension, methodology FSR VERTICAL FILE # 3004
- 3005 **SOYBEAN PRODUCTION AND UTILIZATION IN AFRICA: AN "AGRO-NUTRITIONAL" FARMING SYSTEMS PACKAGE.** Mebrahtu, S. (1986) (Prepared for the Strategic Planning Study, IITA) Ibadan, Nigeria: International Institute of Tropical Agriculture (IITA). (Oct. 1986) 30p. KEYWORDS: Africa, soybeans, crop production, utilization, socioeconomic conditions, programs and projects, agricultural policy, recommendations, documentation, nutrition, institutions, cooperation, communication, networks, extension, training FSR VERTICAL FILE # 3005

- 3006 **STRENGTHENING BASIC SERVICE DELIVERY IN RURAL AFRICA AGRICULTURAL MANAGEMENT TRAINING IN GHANA.** Wunsch, J.S (1981) (Presented at the Twenty-Fourth Annual Meeting of the African Studies Association, Bloomington, Indiana, Oct. 21-24, 1981) Omaha, Neb.: Creighton Univ. 31p. KEYWORDS: Africa, West Africa, Ghana, programs and projects, training, agricultural education, management FSR VERTICAL FILE # 3006
- 3007 **SUSTAINABLE AGRICULTURE RESEARCH SOURCEBOOK: A COMPILATION OF CURRENT ACTIVITIES ON SUSTAINABLE AGRICULTURE AT U.S. UNIVERSITIES.** Haney, W.G. (1986) Black Earth, Wisc.: Wisconsin Rural Development Center, Inc. 56p. KEYWORDS: sustainability, institutions, research, programs and projects KSUL # S604.5 .H36 1986
- 3008 **TALE FROM THE BUNDUNI WOODS: PART 2- THE MORAL OF THE TALE.** Le Breton, R.J.G. (1986) Agricultural Administration (Vol.22 p.135-147) KEYWORDS: programs and projects, development aid, evaluation, development administration, political attitudes, development agencies, sustainability KSUL # HD1401 .A36
- 3009 **TALE FROM THE BUNDUNI WOODS: PART 1-THE BUNDUNI NATIONAL RURAL DEVELOPMENT PROJECT.** Le Breton, R.J.G. (1986) Agricultural Administration (Vol.22 p.79-87) KEYWORDS: programs and projects, development aid, evaluation, development administration, sustainability KSUL # HD1401 .A36
- 3010 **TANZANIA FARMING SYSTEMS PROJECT: ANNUAL PROJECT REVIEW REPORT, JULY 1985.** Acker, D.G. (1985) Corvallis, Ore.: Tanzania FSR Project, Oregon State Univ. (Publication No.101, July 31, 1985; USAID Contract AFR-0156-C-00-3033-00) 20p. KEYWORDS: Africa, Tanzania, programs and projects, annual reports NOT OWNED BY KSUL
- 3011 **TANZANIA FARMING SYSTEMS RESEARCH PROJECT.** Byrnes, K.J. (1987) (Draft) Washington: U.S. Agency for International Development (USAID). (USAID Project No.621-0156) 13p. KEYWORDS: Africa, Tanzania, programs and projects, evaluation FSR VERTICAL FILE # 3011
- 3012 **TRAINED AGRICULTURAL MANPOWER ASSESSMENT IN AFRICA.** (Prepared for the 13th FAO Regional Conference for Africa, Harare, Zimbabwe, July 16-25, 1984) FAO. (1984) Rome: FAO. 37p. KEYWORDS: Africa, FAO, personnel, agricultural manpower, labor, training, forestry, fisheries, livestock, technicians, human resources, education, programs and projects, planning of research, women, problem identification, surveys, employment, constraints, extension, policy, management, curriculum FSR VERTICAL FILE # 3012

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