

Fact Sheet • RWANDA STUDY

• FOOD SECURITY II COOPERATIVE AGREEMENT •
between
• U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT and MICHIGAN STATE UNIVERSITY •
• IN-COUNTRY TIME PERIOD: OCTOBER 1992-APRIL 1995 ¹ •

1. Cooperating Institutions

Ministry of Agriculture of Rwanda, Division of Agricultural Statistics (DSA/MINAGRI)
Agency for International Development, Rwanda Mission (USAID/ Kigali)
Agency for International Development, Global Bureau, Economic Growth Center, Office of
Agriculture and Food Security (G/EG/AFS)
Department of Agricultural Economics, Michigan State University (MSU)

2. Researchers Involved

DSA: Director Anastase Murekezi and other DSA senior and junior researchers
MSU In-Country Researchers: Dan Clay, David Tardif-Douglin, and Jaakko Kangasniemi
MSU Campus Backstop: Tom Reardon with Don Mead, Jim Shaffer, Mike Weber, and Pamela Riley
Miklavčič

3. Objectives of the Research

To contribute to an improved understanding of strategies, policies and actions which can move Rwanda from an economy with large numbers of people trapped in poverty subsistence farming to an economy with opportunities for higher real incomes and food security while protecting resources for future generations.

4. Research Approach

The approach of the project is to assist DSA in providing reliable data about the Rwandan economy and at the same time to use the data to diagnose food security related problems, identify alternative strategies, policies and actions, and provide analysis of the probable consequences of alternative policies. The approach is to likewise make data, diagnosis, and results of analysis as available as possible to all types of policy decision makers, in written and oral form designed to be useful to them. Whenever possible the research staff systematically engage in discussion with policy decision makers and influencers as a part of the research, as well as part of the diffusion process of the project. In

¹ Version of Fact Sheet: October 1996.

addition, research results will contribute to the general literature and thought dealing with economic development, food security, and African economic policy.

The approved FS II proposal for collaborative DSA/MSU/DAI research focuses on four integrated **research and policy questions:**

- 1) What are effective development strategies and policies, based on the "systems perspective" for the agricultural (food and cash crops) and the non-agricultural sectors, to improve household food security, via increases in access to food occasioned by an expanded food supply, and by more income and employment?
- 2) What are the effects on growth and household welfare of existing policies? What policies are missing?
- 3) What complementary strategies and policies will help realize domestic and regional trade potential to provide growing outlets for the products of food and cash crop agriculture, and for the products of off-farm activities?
- 4) How can natural resource constraints be more adequately taken into account?

5. Outputs to Date:

5.1. Written Outputs

- **Statistical Reports**

Muducumura, G., and DSA Staff. 1993 (November). "Enquête Nationale Agricole 1991: Production, Superficie, Rendement, Elevage et Leur Evolution 1984-1991." Publication DSA No. 27.

Clay, D., and Ngirumwami, J. L. 1993 (September). "Bulletin d'Information sur les Prix des Produits Agricoles au Rwanda."

Tardif-Douglin, D., and Uwamariya, L. 1993 (September). "Bulletin d'Information sur la Pluviometrie au Rwanda."

Muducumura, G., and DSA Staff. 1992 (December). "Enquête Nationale Agricole 1990: Production, Superficie, Rendement, Elevage et Leur Evolution 1984-1990." Publication DSA No. 26.

- **Research Reports**

Clay, D. and T. Reardon. 1996. Rwanda Case Study: Dynamic Linkages Among Population, Environment, and Agriculture in the Highlands of East Africa. In *Population, Environment, and Development in Africa: Dynamic Linkages and their Implications for Future Research and Development Programming*, D. Clay, T. Reardon, and A. Shaikh. East Lansing: Michigan State University, pp. 39-91.

Clay, Daniel C. and T. Reardon. 1996. *Linking Population, Development, and the Environment: How Households Confront Poverty and Demographic Pressure in Rwanda*. Population Research Group Research Paper 96-04, Institute for Public Policy and Social Research. East Lansing: Michigan State University.

Clay, D., F. Byiringiro, J. Kangasniemi, T. Reardon, B. Sibomana, L. Uwamariya, and D. Tardif-Douglin. 1995. *Promoting Food Security in Rwanda Through Sustainable Agricultural Productivity: Meeting the Challenges of Population Pressure, Land Degradation, and Poverty*. MSU International Development Paper No. 17. East Lansing: Michigan State University.

Tardif-Douglin, D. et P. Rwalinda. 1993 (September). *Situation de la Patate Douce et du Manioc au Rwanda: Réflexions sur leur Production et Productivité ainsi que leur Impact Potentiel sur la écurité Alimentaire dans l'Avenir*. DSA/MINAGRI, DSA Publication No. 26.

Ngirumwami, J. L. 1993 (May). *Analyse des Tendances de la Production et de la Commercialisation des Produits Agricoles au Rwanda, les Haricots Secs en Particulier*. DSA/MINAGRI, Publication DSA No. 24.

Rwalinda, P., et D. Tardif-Douglin, avec L. Uwamariya. 1992 (November). *Aspects de la Caféculture au Rwanda: Résultats de l'Enquête sur la Sensibilité-Motivation des Caféculteurs Rwandais*. DSA/MINAGRI, DSA Publication No. 25.

- **Working Papers**

Clay, D.C. 1996. *Fighting an Uphill Battle: Population Pressure and Declining Land Productivity in Rwanda*. MSU International Development Working Paper No. 58. East Lansing: Michigan State University.

Riley-Miklavčič, P. and T. Reardon. 1996. Determinants of Farm Household Participation in Rwanda's Banana Wine Subsector. Select Paper, AAEA August 1996 Meetings. Abstract. *American Journal of Agricultural Economics*, December 1996.

Tardif-Douglin, D., J.L. Ngirumwami, J. Shaffer, A. Murekezi, and T. Kampayana. 1996. *Finding the Balance Between Agricultural and Trade Policy: Rwanda Coffee Policy in Flux*. MSU International Development Working Paper No. 59. East Lansing: Michigan State University.

Byiringiro, Fidele, and T. Reardon. 1995. *Determinants of Productivity*. MSU Department of Agricultural Economics, Staff Paper No. 95-10.

Clay, Daniel. 1995. "Population Pressure, the Structure of Land Holding and Land Degradation." MSU Department of Agricultural Economics, Working Paper.

Clay, D., F. Byiringiro, J. Kangasniemi, T. Reardon, B. Sibomana, and L. Uwamariya. 1995 (March). *Promoting Food Security in Rwanda through Sustainable Agricultural Productivity: Meeting the Challenges of Population Pressure, Land Degradation, and Poverty*. MSU Department of Agricultural Economics, Staff Paper No. 95-08.

Clay, Daniel, T. Reardon, and J. Kangasniemi. 1995. *The Determinants of Conservation Investments*. MSU Department of Agricultural Economics, Staff Paper No. 95-21.

Clay, D., T. Reardon, and J. Kangasniemi. 1995 (March). *Sustainable Intensification in the Highland Tropics: Rwandan Farmers' Investments in Soil Conservation and Fertility*. MSU Department of Agricultural Economics, Staff Paper No. 95-21.

Clay, Daniel, D. Tardif-Douglin, F. Byiringiro, J.B. Sibomana, and P.R. Miklavčič. 1995. "Agricultural War Losses in Rwanda." DSA/MINAGRI draft Document de Travail.

Grosse, S. 1995 (June). "Maternal Education and Child Heights in Rural Rwanda." MSU Department of Agricultural Economics, Working Paper.

Grosse, Scott, and D. Clay. 1995. "Determinants of and Responses to Household-level Food Insecurity in Rwanda." MSU Department of Agricultural Economics, Working Paper.

Grosse, S., K. Krasovec, S. Rwamasirabo, and J. B. Sibomana. 1995 (March). "Evaluating Trends in Children's Nutritional Status in Rwanda." MSU Department of Agricultural Economics, Working Paper.

Harris, Craig, and D. Clay. 1995. "Patterns of Fuelwood Use in Rwanda." MSU Department of Agricultural Economics, Working Paper.

Kangasniemi, Jaakko, F. Byiringiro, and J.B. Sibomana. 1995. "Patterns of Agricultural Productivity in Rwanda." MSU Department of Agricultural Economics, Staff Paper.

Miklavčič, Pamela R., T. Reardon and V. Habimfura. 1995. "Rwanda's Banana Wine Subsector: Determinants of Farm Household Participation." MSU Department of Agricultural Economics, International Development Paper (draft for review).

Minot, Nicholas. 1995. "The Impact of Devaluation on Rural and Urban Poverty." MSU Department of Agricultural Economics, International Development Paper (draft).

Tardif-Douglin, David. 1995. "The Effect of Heavy Reliance on Cassava and Sweet Potatoes on the Nutritional Status of Rwandan Farm Households." MSU Department of Agricultural Economics, Working Paper.

Habimfura, V. et P. Riley. 1993 (November). "Le Vin de Banane dans l'Economie Rurale au Rwanda: Contraintes et Stratégies de Développement." DSA/MINAGRI draft document de Travail.

Uwamariya, L., J. Kangasniemi, et T. Reardon. 1993 (August). "La productivité agricole au Rwanda, 1989-1990: La productivité moyenne de la terre, du travail, et la rentabilité de la terre, et les fonctions de production." Working Paper.

Habimfura, V., et H. B. Fabiola. 1993 (June). "Statut nutritionnel et sécurité alimentaire au Rwanda: Résultats de l'enquête nationale sur la nutrition et la sécurité alimentaire des enfants de 0 à 5 ans et leurs mères (aout-septembre 1992, serie II)." DSA/MINAGRI, DT 40.

Ngirumwami, J. L. 1993 (May). "Tendance des prix de marché pour six cultures vivrières de base et implications sur la disponibilité alimentaire dans les préfectures du Rwanda." Report to USAID. Publication DSA.

Tardif-Douglin, D., and V. Habimfura. 1993 (May). "Evolution des taux de change entre le franc rwandais, le dollar américain et les monnaies des pays voisins, 1992." DT 39.

Clay, D. C. (1993) April. "Structure de la propriété foncière et la dégradation des sols au Rwanda." Draft DSA Working Paper.

Clay, D.C., G. Mudacumura, D. Tardif-Douglin, et L. Uwamariya. 1993 (Avril). "Estimation des pertes sur la production agricole dues à la guerre dans le nord du Rwanda, Année Agricole 1993." Draft DSA Working Paper.

Tardif-Douglin, C.M., S. Rwamasirabo (UNICEF consultant), et K. Krasovec (UNICEF). 1992 (December). "Statut nutritionnel et sécurité alimentaire au Rwanda: Résultats de l'enquête nationale sur la nutrition et la sécurité alimentaire des enfants de zero à cinq ans et leurs mères (novembre 1991-janvier 1992)." DSA/MINAGRI-UNICEF, Document de Travail, No. DT 38.

- **Briefing Papers**

Clay, D., F. Byiringiro, J. Kangasniemi, T. Reardon, B. Sibomana, L. Uwamariya, and D. Tardif-Douglin. 1995. *Promoting Food Security in Rwanda Through Sustainable Agricultural Productivity: Meeting the Challenges of Population Pressure, Land Degradation, and Poverty*. MSU Policy Synthesis No. 6. East Lansing: Michigan State University.

Tardif-Douglin, D., J. Shaffer, A. Murekezi, J. L. Ngirumwami, and T. Kampayana. 1993 (October). "Policy Options Facing Rwanda's Coffee Sub-Sector: Discussion of Potential Budgetary and Foreign Exchange Ramifications."

Habimfura, V. and P. Riley. 1993 (July). "Household Income Diversification Strategy and Linkages to the Banana Beer Subsector in Rwanda." Presented at USAID/Kigali.

Shaffer, J. and D. Tardif-Douglin. 1993 (June). "Update on Coffee Policy in Rwanda."

- **Theses**

Kangasniemi, J. "Product Mix and Intensification in Rwandan Agriculture: Productivity and Sustainability Effects" (tentative title), in progress for Ph.D. at MSU.

Grosse, Scott. 1996. "Determinants of Children's Nutritional Status in Rwanda." Ph.D. dissertation. University of Michigan, Department of Population Planning and International Health.

Byiringiro, Fidele. 1995. "Determinants of Farm Productivity and the Size-Productivity Relationship Under Land Constraints: The Case of Rwanda." M.S. thesis (Reardon, thesis supervisor), Michigan State University, Department of Agricultural Economics. **Awarded best M.S. thesis in department, 1995.**

Miklavčič, Pamela Riley. 1995. "Determinants of Farm Household Participation in Rwanda's Banana Wine Subsector," M.S. thesis (Reardon, thesis supervisor), Michigan State University, Department of Agricultural Economics.

- **Journal Articles/International Professional Outreach**

Byiringiro, F. and T. Reardon. Forthcoming. Farm Productivity in Rwanda: Effects of Farm Size, Erosion, and Soil Conservation Investments. *Agricultural Economics*, accepted July 1996.

Clay, C. and T. Reardon. Forthcoming. Determinants of Farm-Level Conservation Investments in Rwanda. In *IAAE Occasional Paper No. 7*. Contributed Paper for IAAE 22nd

Congress (International Association of Agricultural Economists) August 1994 in Harare; forthcoming in IAAE Conference Proceedings.

Kangasniemi, J. and T. Reardon. Forthcoming. Demographic Pressure and the Sustainability of Land Use in Rwanda. In *IAAE Occasional Paper No. 7*. Contributed Paper for IAAE 22nd Congress (International association of agricultural economists) August 1994 in Harare; forthcoming in IAAE Conference Proceedings.

Clay, Daniel C. 1995. Fighting an Uphill Battle: Population Pressure and Declining Land Productivity in Rwanda. *Rural Sociology and Development*, Vol. 6, pp. 95-122.

Clay, Daniel C., T. Reardon, and J. Kangasniemi. 1995. Sustainable Intensification in the Highland Tropics: Rwandan Farmers' Investments in Soil Conservation and Fertility. (Submitted for review at EDCC--2 revise and resubmit requested.)

5.2. Oral Presentations

- **Progress/Intentions/Methods/Research Design Meetings**

June 1993. "Méthodologies et Objectifs du Travail de la DSA sur la Productivité Agricole." MINAGRI (with participants from other ministries, the presidency, and sections of MINAGRI) (by L. Uwamariya and T. Reardon).

June 1993. "Méthodologies et Objectifs du Travail de la DSA sur la Productivité Agricole." Université Nationale de Rwanda, Faculté d'agronomie, Butare (by L. Uwamariya and T. Reardon).

April 1993. "Rwanda FS-II Project: Genesis, Objectives, and Progress." (by T. Reardon). Presentation at workshop at MSU (by MSU and AID, Africa Bureau, ARTS/FARA/FSP).

- **Focused Research Presentations/Workshops/Seminars/Research Briefings**

June 1995. Presentation on "Agriculture' Environment Linkages, Colloquium on Promoting Sustainable Agriculture in Sub-Saharan Africa" (Clay). Africa Bureau, USAID. Rosslyn, Virginia.

May 1995. Presentation on "Agriculture, Environment, and Population Linkages" (Reardon and Clay). USAID/Madagascar.

May 1995. Presentation on "Food Security Strategies in the Greater Horn of Africa: Promoting Productivity in Rwandan Agriculture" (Reardon, Clay). Sponsored jointly by USAID Global Bureau and the Office of Agriculture and Food Security. Washington, D.C.

Invited talk at the Hunger Research Briefing and Exchange, World Hunger Program, Brown University, April 7, 1995: talk on crisis in Rwanda and relief policy, in session on promoting peace for food, session on Rwanda.

April 1995. Presentation on "Income Diversification and Nutrition in Rwanda" (Grosse). Food Security Research Seminar Series. Michigan State University, East Lansing.

April 1995. Presentation on "Population Pressure, Land Management, and Agricultural Intensification in Rwanda" (Clay). Conference on Global Population and Social Change. East Lansing.

January 1995. Presentation on "The Tragedy in Rwanda" (Clay). Sponsored by Amnesty International, Michigan State University.

November 1994. Presentation on "Investment in Long-Term Productivity in Tropical Highlands: Recent Research in Rwanda" (Reardon, Clay, Kangasniemi, Byiringiro). Delivered to the Society for International Development, Michigan State University campus.

April 1994. CBS Morning News (National), Paula Zahn host. Live interview from Nairobi on crisis in Rwanda (Clay).

April 1994. Evening News (Local), Jane Aldridge host. Live interview on Rwanda crisis (Clay).

April 1994. Press interviews and reports on Rwanda crisis with: Detroit Free Press, Rochester Democrat and Chronicle, and Lansing State Journal (Clay). All news articles based on interviews appeared in April 1994.

December 1993. Briefing on selected Rwanda productivity results, part of briefing on multi-country productivity research (by Reardon). At USAID/AFR/ARTS/FARA/FSP.

November 1993. Briefing on selected Rwanda productivity results (by Reardon, Clay, D. Tardif-Douglin). At USAID/Kigali.

October 1993. Research briefing. Credit and small enterprises in Rwanda. For visiting Ohio State University research team (Clay).

October 1993. Research briefing. Food security strategies in Gikongoro and Butare. At CARE/Kigali (Clay)

October 1993. Focused seminar on "Policy Options Facing Rwanda's Coffee Sub-Sector: Discussion of Potential Budgetary and Foreign Exchange Ramifications." At DSA/MINAGRI

for representatives of ministries of finance, planning, commerce, agriculture, the central bank, and the coffee board (D. Tardif-Douglin, J. Shaffer, A. Murekezi, and T. Kampayana).

October 1993. Research briefing. Poverty and nutrition indicators from DSA data. For visiting Tufts/AIRD research team (Clay and D. Tardif-Douglin).

October 1993. Research briefing. Structure of and policy options for Rwanda's coffee sub-sector. At USAID/Kigali (A. Murekezi, T. Kampayana, D. Tardif-Douglin).

September 1993. Research briefing. Data and interpretation of results used in D.G.F. analysis of wood consumption in Rwanda. At D.G. Forets (MINAGRI) (Clay).

June 1993. Research briefing. Coffee policy issues and research findings with USAID staff (Shaffer and Tardif-Douglin).

May-June 1993. Outreach meetings with CARE Program staff on ag. war losses and relief/reconstruction needs among the displaced population (Mudacumura and Clay).

May-June 1993. Participation/organization of working group of MINAGRI/DEP on post-war agricultural reconstruction in Rwanda (Kampayana, Uwamariya, Mudacumura, D. Tardif-Douglin, and Clay).

May 1993. Seminar presentation. "Présentation des Travaux de la DSA/MINAGRI sur les Tevenus de Ménages Ruraux et Leur Importance pour Mieux Cerner les Réalités Socio-Economiques Régionales" (by J. L. Ngirumwami). Seminar "Stratégies et Politiques d'Amenagement et de Developpement Regional et Local au Rwanda" at Centre IWACU (by MINIPLAN and UNDP), Kigali.

May 1993. "Sweet Potatoes" (by Rwalinda) and "Cassava" (by D. Tardif-Douglin). Focused-seminar at INADES (Institut africain pour le developpement economique et social), Kigali.

May 1993. Focused seminar. "Sweet Potatoes" (by Rwalinda) and "Cassava" (by Tardif-Douglin). At IPV/CTA (Intensification de la Production Vivrière/Coopération Technique Allemande), Ngororero.

April 1993. Research briefing. Estimates of war losses. To USAID (Clay, D. Tardif-Douglin).

March 1993. Focused seminar. "Analyse de la Situation de la Production et de la Commercialisation des Haricots au Rwanda et les Politiques Connexes" (by Ngirumwami, Kampayana, Rwalinda, Fabiola, Habimfura). At ISAR (Institut de sciences agronomiques du Rwanda), Rubona/Butare.

October 1992. Focused seminar. "Coffee Production and Constraints to Production: Special Emphasis on Productivity effects on Policy Disallowing Abandonment of Coffee Trees" (by P. Rwalinda and D. Tardif-Douglin). At World Bank/Kigali.

- **Short Term Training and Collaborative Research Activities**

DSA programmer Bosco visit to MSU seven weeks in December 1993, January 1994 to work on SPSS and income/expenditure data programming and organization.

DSA analyst Vincent Habimfura visit to MSU. Six weeks in October-November 1993 to study constraints to and strategies for the banana wine subsector and to learn more SPSS.

DSA analyst Laurence Uwamariya visit to MSU. Six weeks in July-August 1993 to study land and labor productivity and to learn more SPSS.

5.4. Long Term Training

Masters degree program, 1994-1996, Fidele Byiringiro.

Special training in survey methods, Jean-Bosco Sibomana, at International Statistical Program Center (ISPC), Washington, D.C. July 1993-June 1994.

Non-degree training in agricultural economics, Pierre Rwalinda, July 1993-June 1994.

Independent study (summer semester, May 15-August 15, 1993), Fidèle Byiringiro, MS student at MSU. Reardon as supervisor, subject: agricultural productivity in Rwanda.

5.5. MSU Backstop Trips to In-country Team

March 1994, 3 weeks. Leonidas Murembya and Don Mead trip to work on microenterprise survey.

November 1993, 3 weeks. Reardon trip to work on agricultural productivity, soil conservation, and income diversification research, as well as general backstopping.

October 1993, 2 weeks. Shaffer trip to work on coffee policy research.

August 1993 (arrival; for at least one year). Ph.D. student Jaakko Kangasniemi outposted to begin study of land use in Rwandan agriculture.

June-August 1993, 7 weeks. Trip by M.S. student Pam Riley to conduct rapid appraisal of banana wine subsector.

June 1993, 2 weeks. Shaffer trip to work on coffee policy research.

May-June 1993, 2 weeks. Reardon trip to work on agricultural productivity and income/linkages studies, as well as general backstopping.

December 1992, 2 weeks. Clay visit to work with D. Tardif-Douglin on setting up field office. (Clay was then outposted long-term starting January 15, 1993.)

October 1992, 2 weeks. Reardon, Weber, Mead, Shaffer and Clay trip to finalize research plan and elaborate final version of MOU with DSA and USAID/Kigali.

5.6. Examples of Impact of Project Findings/Information

Impact is demonstrated when missions from abroad, policy institutions in Rwanda, and other researchers use DSA/FS-II research results, citing and discussing them. The results then enter the body of information and debate which informs policy making. This process can be observed in several categories:

Agriculture Sector Strategies and Promoting Agricultural Productivity and Food Security in Greater Horn of Africa countries: Gary Nelson, ex-director of USAID/Rwanda (was director during most of field portion of project which ended April 1994) spread the results and documents from the Rwanda project to the countries of the Greater Horn (including, for example, Ethiopia), as he was a primary USAID consultant to the strategic planning exercises of missions in that region. Research results from Rwanda were considered as crucial to forming strategies for food security and farm productivity in the region. Nelson noted that the Rwanda project was an example of a very productive way to do this productivity enhancing research.

Coffee: A widely-disseminated report on coffee was followed by seminars with the World Bank, USAID, GOR ministries and OCIRCAFE. Given the context of the deteriorating world price of coffee, and of Structural Adjustment, coffee policy is a burning policy debate. DSA/FS-II seminar at the World Bank came at a time when they and the GOR (MINAGRI) were negotiating entry/exit laws and coffee subsidies. The information of the DSA/FS-II subsector study was of great interest to both sides. Another seminar was given to representatives of numerous GOR institutions directly involved in coffee policy making. The points stressed were: (1) subsidizing coffee might not be the most efficient way to raise foreign exchange, given the costs in foreign exchange of imported inputs; (2) removing the law allowing deficiency payments to farmers would have small impact on production, and would be consistent with the SAP and market liberalization. The results

influenced MINAGRI policy on adjustment in the coffee sector by showing that possible negative effects of policy change would be small and thus encouraging reform.

Sweet potatoes and cassava: The impact of the root crops study on policy has not been clear because of an absence of root crops policy other than attempting to raise output. But the results have reached all levels of research at ISAR (the director attended the seminar).

Parallel Exchange Rates: The results of the working document on this issue were of great interest to the Direction of Economic Policy, Ministry of Planning.

Nutrition: UNICEF was the partner in this work, and has used the results in its planning and its evaluation of its own and GOR's work in health and nutrition. With USAID and World Bank's help, the Ministry of Planning will rely heavily on the results in monitoring the effects of the SAP on poor rural households. The results have already been cited in Shaw's (AIRD) report on the subject.

War losses and refugees: DSA/FS-II analyses were used by the GOR, CARE, CRS, USAID, and other agencies involved in the relief effort associated with the war. CARE is using DSA data to form strategies for Gikongoro and Butare regions (affected by mass entrance of refugees).

Price and rainfall information: DSA/FS-II bulletins on these are being used by GOR and donors to monitor effects of potential drought this season.

Agricultural productivity: MINAGRI will use these results to inform policy on regionalization.

Linkages between DSA and Socioeconomics Program at ISAR.

5.7. Surveys Undertaken

Ongoing annual surveys by DSA: Demographic Characteristics/Production/ Density (Field Characteristics and Land Allocation)/ Animal Production (Flow)/ Livestock (Stock)/ Transactions/incomes

DSA/UNICEF Nutrition Survey

DSA/ISAR/CIAT Climbing Bean Survey

6. General Research Activities

The principal research activities approved in the DSA/MSU/DAI proposal and that form the general substance of the FS II Cooperative Agreement project in Rwanda include:

Collaborative research assistance to DSA in maintaining and enhancing its ongoing rural household survey operations and procedures, and related analytical and management/accounting capacities, with a view toward further developing the research and administrative capacity of DSA to perform these tasks independently in the future, and to strategically service requests for food security research assistance from other parts of the GOR.

A major program of analyses in Rwanda and at MSU of the DSA accumulated data base, especially in the first 12-18 months, will be completed for purposes of better understanding rural household behavior and the effects on rural welfare and incomes of past and present policy adjustments. This analysis will also focus on identifying potential growth strategies and a greater understanding of constraints and opportunities vis-a-vis agricultural productivity, natural resources and infrastructure.

Selected non-farm special studies. Emphasis will be placed on small enterprises and increasing rural non-farm employment and income that is linked with both the supply and demand side of the rural economy in Rwanda. Initial surveys of rural enterprises and non-farm employment will be conducted, with more focused sub-sector studies planned as possible follow-on activities.

Selected new household-level studies. Food security and related economic growth research topics emerging from initial research findings and policy dialogue will provide the basis for add-on analyses and special studies of DSA's ongoing sample of rural households. As DSA began collecting data on a new three-year sample of rural households in September of 1992, we anticipate that all new household level data collected under the FS-II project will derive from this sample frame.

7. Outputs Anticipated (from outset): Working Papers/Journal Articles

The following are areas of more specific research proposed for planning and research implementation purposes that will guide research over the life of the project. There is no suggestion that these are independent research activities. The success of the project depends upon integration across these areas of research emphasis and the multiple use of data and analysis in a wide variety of reports:

Subsector Studies. Many policies are related to specific commodities. The subsector study looks not only at the commodity in the context of the household but also focuses attention on the up- and down-stream connections with the economy. The intent is to examine the current and potential performance of selected individual subsectors.

Coffee. Coffee is one of the most important cash income earners and the largest foreign exchange earner. But to what extent is coffee production a net benefit to farmers and the economy?

Bananas and banana wine, and sorghum and sorghum beer. Growing/buying these agricultural commodities and then converting them to traditional beverages appears to be the largest cash earner in many rural households. What is the feasibility and the desirability of targeting this subsector as an engine of growth?

Tubers. Tubers are the principal subsistence food security crops. How does the competition between tubers and cash crops affect household and national food security?

Beans. What is the current situation and potential for this subsector, and what impact does it have on food security?

Others. What are other crops with potential for economic development and contributions to food security and what subsector development would contribute to their viability? Horticultural? White potatoes?

Rural household and enterprise productivity. Indicators of productivity relationships. Indicators of relationships of cropping patterns to real incomes and food security. Indicators of returns to labor and land under different conditions. How can rural productivity be increased so as to improve food security?

Income levels and sources, expenditures and linkages between farm and non-farm economies. Extent and nature of non-farm incomes. Indicators of current and potential demand for purchased inputs and consumer goods. Especially the demand for labor saving inputs. How can income-earning activities downstream and upstream from agricultural be promoted so as to increase overall incomes and to provide impetus to local agriculture?

Non-farm enterprises related to farm incomes and food security. Indicators of the numbers and types of enterprises related to farm household welfare. Industry and subsector studies of selected enterprises especially related to rural households economic opportunities. For example lime, fertilizer mixing and delivery, improved fuel and labor-saving equipment. Local transportation services. Health and education services. Relate to non-farm enterprise industry studies.

Purchased farm inputs. Extent of current use and potential and consequence of additional purchase and use of selected inputs. Relate to productivity, incomes, food security and subsector performance.

Land degradation. Factors and practices related to land degradation. Relationships to cropping patterns, the structure of landholding, income diversification and food security.

Food availability and nutrition. Relating all factors from the other studies with food availability and nutrition. To the extent possible, assessing the nutritional effect of the food/cash crop mix, and of income diversification.

Regional and international commerce. The potential and the consequences of an increase in trade, particularly within the region. Current patterns of trade. Practical problems.

Domestic markets and marketing. The state of domestic marketing and the extent of commercialization of the rural economy. Practical problems and policy issues.

The agricultural transformation process and strategies to promote it. Integrative collective look at the problems and alternatives in developing strategies for an economic transition.