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ASPAP/DAI Report No. 216

ASPAP/DAI Project Final Report:

Rwandan Agricultural Survey and Policy Analysis Project

Contract N°. 696-0126, USAID

by

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Abbreviations Used

ADO	USAID Mission Agriculture Development Officer
ADR	ASPAP/DAI Report
AID/R	USAID Mission/Rwanda
ASAP	Agricultural Surveys and Analysis Project (1981 - 1987 Phase I)
ASPAP	Agricultural Surveys and Policy Analysis Project (1986 - 1991 Phase II)
BUCEN	US Bureau of the Census
CIAT	International Center for Tropical Agriculture
CIC	Comité Interministériel de Coordination
CIP	International Potato Center
CNA	Commission Nationale de l'Agriculture
COSCA	Collaborative Study on Cassava in Africa
CPSP	AID/R Country Program Strategic Plan
CRED	Center for Research on Economic Development, University of Michigan
DANK	Projet de Developpement Agricole Nshili-Kivu
DGB	Projet de Developpement Globale de Butare
DGPE	Direction Générale de la Politique Economique, Ministry of Planning
DPS	Direction de la Politique Sectorielle, Ministry of Planning
DSA	Division des Statistiques Agricoles (renamed 2/89; formerly SESA)
DAI	Development Alternatives, Incorporated
DAI/W	Development Alternatives, Inc./Washington, DC, Office
ENA	Enquête Nationale Agricole (1984)
ENBC	Enquête Nationale Budget-Consommation (1983 - 1985)
EOPS	End of Project Status
GOR	Government of Rwanda
IAMSEA	Institut Africain et Mauricien de Statistique et d'Economie Appliquée

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IITA	International Institute for Tropical Agriculture
ISAR	Institut des Sciences Agronomiques du Rwanda
ISPC	International Statistical Programs Center, U. S. Bureau of Census
LOE	Level of effort
LT	Long Term
LTTA	Long Term Technical Assistance
MINAGRI	Ministry of Agriculture, Livestock, and Forestry
MINIFINECO	Ministry of Finance and Economy (renamed MINIFIN in Jan. 1989)
MINIPLAN	Ministry of Planning
MSU	Michigan State University
OCIR	Office des Cultures Industrielles du Rwanda
ONAPO	Office Nationale de Population
OPROVIA	Office des Produits Vivrières et Animales
PACD	Project Assistance Completion Date
PAG	Projet de Developpement Agricole de Gitarama
PAP	Projet Agro-Pastoral de Nyabisindu
PDAG	Projet de Developpement Agricole de Gikongoro
PIR	Project Implementation Report
pm	person-month
PP	Project Paper
Pro-Ag	Project Grant Agreement
PTG	Project Technical Group
RCO	Regional Contracts Office, REDSO/ESA, USAID, Nairobi, Kenya
RD	"Enquête Revenus-Dépenses"
SAP	Structural Adjustment Program

SESA	Service des Enquêtes et Statistiques Agricoles (renamed DSA as of 2/89)
SPSS	Statistical Package for the Social Sciences
ST	Short Term
STTA	Short Term Technical Assistance
TA	Technical Assistance
TOR	Terms of Reference
UNR	Université Nationale du Rwanda
USAID	U. S. Agency for International Development

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I. INTRODUCTION

This report summarizes the activities completed under the institutional contract (USAID Contract No. 696-0126-C-00-7777-00) of USAID's Agricultural Surveys and Policy Analysis Project (ASPAP) from the 1 August 1987 project commencement date to the 30 September 1992 project assistance completion date (PACD).

Development Alternatives, Inc. (DAI), ASPAP's institutional contractor, and its principal subcontractor, Michigan State University (MSU) provided the technical assistance and training components of the project. This report will, consequently, focus on the implementation of the technical assistance and training components under the ASPAP/DAI contract. In addition, it provides a summary of the final status of ASPAP project outputs and a discussion of project implementation issues. This report does not directly address other ASPAP activities funded outside the ASPAP/DAI contract, such as the provision of commodities and local currency costs, which were administered directly by AID/Rwanda.

II. ASPAP OBJECTIVES AND BACKGROUND

The Agricultural Surveys and Policy Analysis Project represents the second phase in USAID financial and technical support for the collection and analysis of agricultural and rural data in Rwanda. It built upon a solid sample-based data base established by its predecessor project, the Agricultural Survey and Analysis Project (ASAP), which ran from May 1981 to September 1987. ASPAP was expected to differ from its predecessor ASAP by placing greater emphasis on policy analysis and ensuring that survey findings were inserted into the policy debate.

The purpose of ASPAP, as stated in the Project Grant Agreement (Pro-Ag), Amplified Project Description, was "...to improve policy formulation for the rural economy by improving the quality and increasing the quantity of the information base from which policy is formulated and by strengthening the institutions responsible for provision of such information." The Project was expected to work in three Ministries having key roles to play in agricultural and rural policy formulation, the Ministry of Agriculture, Livestock, and Forests (MINAGRI), the Ministry of Planning (MINIPLAN), and the Ministry of Finance and Economy (MINIFINECO).

According to the Pro-Ag, project resources were to be shared among these ministries in order to achieve the following outputs:

- 1 Rwandan staff trained in data collection and analysis, having the capacity to do rapid surveys on key policy issues and present results in ways that will enable decision makers to determine the impact of their decisions;
- 2 The capability to produce quickly analyses and publications based on periodic surveys and special studies, which respond to the questions and information needs of policy makers; and
- 3 The capacity in SESA (now DSA, the Division des Statistiques Agricoles) to provide expert consultant services to data users and other statistical services of GOR on survey design, sampling techniques, data processing and analysis.¹

¹ Throughout the document, reference to historical SESA will generally be as SESA/DSA to avoid confusion for the reader who is only familiar with DSA.

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The institutional contract added two additional project outputs (also included in the Project Paper [PP]):

- 4 An established and maintainable integrated data base which can be used to undertake analysis of the rural economy for policy makers; and
- 5 A second National Agricultural Survey (in 1989, following the population census) based on the area sample frame technology if that should prove more feasible than the list frame updated from the population census.

As part of the Project's routine activities an annual survey was made of agricultural production, area planted, and yields. Since it was possible to extrapolate the results of these surveys to the prefectural and national levels, the 5th project objective was considered moot. This was reflected by its absence in all the Project Implementation Reports (PIR).

In addition to expected project outputs, the following conditions were accepted by the parties to the Pro-Ag as criteria by which the Project's success could be measured (End of Project Status - EOPS), namely that by PACD there would be:

- 1 Improved agricultural policies and project interventions;
- 2 An increased demand on the part of policy makers for information and analysis on the rural economy;
- 3 A stronger role of MINAGRI in agricultural policy formulation;
- 4 Increased recognition on the part of Participating Agencies of their ability to be responsive to needs of policy makers;
- 5 An improved collaboration among the diverse institutions involved in analysis and policy formulation for the rural sector;
- 6 An on-going dialogue established between professionals of the Participating Agencies and members at the technical level of the Interministerial Coordination Committee for Rural Development and Health and other CICs as appropriate; and
- 7 A more informed GOR/A.I.D. policy dialogue based on the information produced by Project-sponsored studies.

III. MAJOR PROJECT ACCOMPLISHMENTS

The mid-term evaluation found the Project to be a very good one, and the final evaluation considered it to have successfully achieved EOPS. These observations relate primarily to ASPAP's activities within The Division des Statistiques Agricoles (DSA, previously SESA) of the Ministry of Agriculture and Livestock, where the Project was headquartered, and which received the bulk of USAID financial and technical assistance. Project activities in the Ministry of Planning and the Ministry of Finance and Economy were less successful and more peripheral to the central objectives of the Project.

With the assistance of the project, an important agriculture data base has been established and maintained, and important special studies relating to household income and expenditures and numerous

agriculture sub-sectors have been conducted. These have provided policy makers with the information upon which to base policy changes and new interventions. An institution has been built that can generate statistically sound and policy-oriented data, can transmit that information to other branches of the Rwandan government, and can help the government steer the economy through the difficult period of structural adjustment.

A. *Areas of Activity*

ASPAP project activities were intended to take place in three branches of the government, the Agricultural Surveys and Statistics Service (SESA -- Service des Enquêtes et Statistiques Agricoles) of MINAGRI, the Surveys Unit (DE) of the Directorate General of Statistics (DGS) of MINIPLAN, and the Directorate General of Economy (DGE) of MINIFINECO.

1. SESA/DSA

Within SESA, the Project was to provide assistance to carry out periodic agricultural surveys and special policy-related studies. It was also within SESA that coordination of project activities was to occur. SESA was upgraded to divisional status, directly under the Ministry of Agriculture's Secretariat General, and became the Agricultural Statistics Division (DSA).

Total deliveries of technical assistance to SESA/DSA through the institutional contract were to be 136 person-months (pm) (120 LTTA, 16 STTA). Long-term training planned for 4 masters' degrees, and 12 pm of short-term training was scheduled. It was clear from the outset that it would be in SESA/DSA that USAID would place greatest institution-building emphasis.

After revisions based on perceptions of changed requirements in relative amounts of STTA vs LTTA, final deliveries of TA to SESA/DSA, were 149 pm (86 LTTA, 60 STTA). SESA/DSA sent 4 MS students for a total of 96 pm of long-term training. At 99 pm, deliveries of short-term training to DSA were well above the 15 pm that had already been revised upwards from the Project Paper. DSA's 8 vehicles represented more than half of project-purchased vehicles and 31 motorcycles rather than the planned 20 were purchased for survey supervision and for the mobile special studies team.

2. MINIPLAN

Within MINIPLAN, the Project was expected to assist the Surveys Unit of the DGS analyze data from the National Household Budget and Consumption Survey (ENBC), and to integrate these data with those of the National Agricultural Survey. The Project planned to conduct surveys on enterprises, the informal non-agricultural sector, and on employment. Total deliveries of the institutional contract were to be 48 pm (36 LTTA, 12 STTA) of technical assistance. Long-term training plans were for 2 masters' degrees, and 15 pm of short-term training were planned. It was expected that LTTA to MINIPLAN would be phased out in the fourth year of the project.

For various reasons--including the difficulty of analyzing the ENBC data set, and continual turnover of local counterpart staff--project activity at MINIPLAN became bogged down in the analysis of ENBC data. The period from September 1987 until March 1991 saw TA being used almost exclusively to clean, tabulate and publish the results of the ENBC. Final deliveries of TA to MINIPLAN, after revisions in STTA amounts, were 45 pm (36 LTTA, 19 STTA).² Two MINIPLAN staff were trained

² This includes some STTA supplied the ex-MINIFINECO activities.

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at the MS level, representing 48 pm, and 39.6 pm rather than the revised 35 pm of short-term training were provided. MINIPLAN received 6 rather than the 4 vehicles planned.

3. MINIFINECO

Within MINIFINECO, the Project was expected to assist the Department of Sectoral Policy (DPS) within the Directorate General of Economic Policy (DGPE) to conduct policy studies, and to refine a sectoral model of the economy. The Project Paper had planned 12 pm of LTTA as well as 12 pm of STTA, for a total of 2 person-years of technical assistance to MINIFINECO. By the time the Pro-Ag and the institutional contract had been prepared, however, this had been revised to 12 pm of STTA, with no mention of LTTA. It was even suggested in the PP that TA for MINIFINECO might be shared with MINIPLAN. Long-term training for 2 MS students was planned, and 20 pm of short-term training were intended.

Project activity at MINIFINECO lasted only until March 1989, upon which time the MINIFINECO unit with which the Project was working was transferred to MINIPLAN. Twelve person months of STTA (no LTTA was provided) were provided to MINIFINECO to conduct a single study on recurrent costs of communes and commune self-financing ability (Etude des Coûts Récurrents Communaux). By August 1989 the ASPAP-supported ex-MINIFINECO unit, by then working in MINIPLAN, had exceeded its budget, and all project activities with the exception of long- and short-term training were closed down. For one study, MINIFINECO had received 2 MS-level long-term training, 23 pm of short-term training, 2 vehicles, and \$18,000 worth of computer equipment.

B. *Contractor Deliveries--LTTA, STTA, LT Training, ST Training*

1. Technical Assistance

The institutional contract with Development Alternatives, Inc., the prime contractor, specified the nature, quantity, and placement of inputs to be supplied by the Contractor. Specifically, short- and long-term technical assistance (STTA, LTTA) were to assist the participating agencies to undertake the planned activities and to procure the required training and commodities necessary to improve their capacity to conduct studies and analyses with policy implications.

a. Planned TA deliveries

Long term technical assistance was to include an agricultural economist to be posted at SESA/DSA for 4 years (at that time the life of the project). This TA was expected primarily to strengthen the analysis division of SESA/DSA through on-the-job training of Rwandan counterparts. It was suggested that similar assistance might be provided the other two participating agencies as well. Furthermore, the agricultural economist at SESA/DSA was expected to provide assistance to all the participating agencies--SESA/DSA, MINIPLAN, and MINIFINECO--in developing work plans and conducting surveys, policy studies, and undertaking seminars and workshops. The agricultural economist was also to assist the Project Technical Group (PTG), composed of the heads of the participating agencies and the USAID Project Manager, draft terms of reference for, and handle logistics of, short-term technical assistance (see TOR in Appendix A).

An economist was to be based at MINIPLAN as LTTA for 3 years, and to work as well with the analysis staff at MINIFINECO. The general tasks of this TA were to be assistance in the organization of workshops and seminars presenting the results of ASPAP-funded studies, and assistance in the planning

and execution of surveys and policy studies. This advisor would also assist in the drafting of annual work plans and would help the PTG draw up terms of reference for short-term technical assistance (see TOR in Appendix A).

No team leader was designated since it was assumed that, "...all technical assistance will be supervised and coordinated by the participating agencies and the PTG." (Institutional Contract, p.14) One member of the LTТА team was to be designated Contractor Representative to handle contractual matters and administrative duties, which were expected to be minor.

Sixty-two months of short-term technical assistance (STTA) were contracted, of which 42 would involve recurrent visits of a computer programmer (18 pm), a social scientist (12 pm), and a statistician/survey specialist (12 pm). It was expected that the computer programmer and the social scientist would work primarily at SESA/DSA, but that they would also provide some on-the-job training to the computing and analysis units at MINIPLAN and MINIFINECO. The statistician/survey specialist was to provide his/her services as needed and as specified in annual work plans, to each of the three agencies. The remainder of the STTA (20 pm) was to be programmed as needed, primarily for special studies and training.

Over the life of the Project, seven amendments were made to the contract, the budget and/or the level of effort (LOE). When actual deliveries of TA and Training are presented, they will be compared in some sense to the initial contract, Pro-Ag, and PP expected levels, but primarily to the revised and contractually binding amounts.

b. Actual TA deliveries

As is shown in Table 1, Dr. Gregory Lassiter, the agricultural economist, de-facto team leader and chief of party, arrived September 1987 as the first LTТА of the Project. LTТА for MINIPLAN, economist Dr. James Ansoanuur, arrived November 1988 to begin what became 36 months with MINIPLAN (until ASPAP/MINIPLAN was closed out) and 10.2 months as econometrician at DSA. Policy Analyst, Dr. David Tardif-Douglin, arrived March 1991 for a tour which turned out to be 20.8 months. The last 6 months of the Policy Analyst's tour were as team leader and Contractor Representative following the April 1992 departure of initial Contractor Representative Gregory Lassiter.

From September 1987 through September 1992 122.4 pm (10.2 person-years) of LTТА were delivered by the institutional contractor, 146 % of LTТА in the initial contract and 101 % of the revised amount (Amendment No. 7).

STTA began arriving within the first 5 weeks of the Project and continued until the last week. By the Project Assistance Completion Date (PACD), 90.8 pm of STTA had been delivered either directly by the Contractor (61.2 pm) or by Michigan State University, the principal sub-contractor on the Project (29.6 pm). In addition to the recurrent STTA--Survey Specialist, Dr. Dan Clay (13.5 pm), computer programmer, Mr. Jim Otto (7.8 pm), and Social Scientist, Dr. Tom Zalla (9.9 pm)--who were key elements of the TA, 59.6 pm of STTA linked directly to special studies and/or in-country training were delivered. By PACD the Project had delivered 146 percent of STTA in the initial contract, and 98 percent of the revised amount. (see Appendix B for dates and type of STTA deliveries)

2. Training

From the outset, training was considered a key element of the Project: including both long- and short-term institution-based and on-the-job training by technical assistants. It was emphasized in all Project documents (PP, Pro-Ag, Institutional Contract), and, according to the Project Paper, was to receive 12

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Table 1

TECHNICAL ASSISTANCE ACTUAL VS EXPECTED DELIVERIES	INITIAL CONTRACT	REVISED CONTR.	ACTUAL	CALENDAR				
				9/87- 8/88	9/88- 8/89	9/89- 8/90	9/90- 8/91	9/91- 9/92
TOTAL TA DELIVERIES	146 pm	214.3 pm	213.2 pm					
LTTA:	84	121.3	122.4	////	////	////	////	////
Ag. Economist, Lassiter	48	56.0	55.2					
Economist, Ansoanuur	36	46.3	46.2					
At MINIPLAN	36	36.0	36.0					
At DSA		10.3	10.2					
Policy Analyst, Tardif-Douglin		19.0	20.8					
STTA:	62	93.0	90.8	////	////	////	///	////
Survey Specialist (MSU sub)	12	13.2	13.5	-	-	-	-	-
Computer Programmer	18	9.5	7.8	-	-	-	-	-
Social Scientist	12	10.0	9.9	-	-	-	-	-
Other STTA	20	60.3	59.6					
DAI	7	47.4	43.5	-	-	-	-	-
MSU sub	13	12.9	16.1	-	-	-	-	-

Shaded area represents the period of civil disturbance and political instability following the October 1990 rebel invasion and the protracted border war in the north of the country.

percent of the AID/Rwanda budget for the project. It was in part because of AID/R insistence on on-the-job training that the Pro-Ag included a clause binding the participating agencies of the Government of Rwanda (GOR) to providing counterpart personnel to work with and learn from the technical assistance staff.

a. Planned deliveries

The Project Paper envisioned a long-term training plan consisting of 8 masters programs, 4 for SESA/DSA staff, and the remaining four to be divided equally between MINIPLAN and MINIFINECO. The long-term training for SESA/DSA was to be for masters degrees in agricultural economics, statistics, and computer science. For MINIPLAN, long-term training was to provide 2 masters degrees in economics and data processing. Long-term training for MINIFINECO staff was to provide 2 masters degrees in economics. The institutional contract modified these requirements somewhat in requiring, for SESA/DSA, 2 social scientists (agricultural economist or rural sociologist), 1 computer programmer, and 1 statistician/survey design specialist. It also modified the requirements for the MINIPLAN (1 computer programmer, 1 economist or statistician) and the MINIFINECO (1 statistician, 1 economist) components of training.

The short-term training program, according to the Pro-Ag, was to provide 50 pm of overseas and in-country training to the staff of the three participating agencies. Fifteen person months were to be provided SESA/DSA in statistics/survey methods, policy analysis and management. Another 15 pm were to be provided MINIPLAN in research methods, statistics and management. MINIFINECO was to receive 20 pm of similarly oriented overseas and in-country short-term training. The Institutional Contract specified that 25 pm of the short-term training should be overseas.

b. Actual deliveries

The Contractor sub-contracted the entire long-term training component of the Project to its principal sub-contractor, Michigan State University (MSU). MSU administered all the 8 long-term training programs throughout the life of the project, with the exception of one training program which, because it did not figure in the Project budget, was administered directly by USAID Rwanda.

Table 2 shows that all the long-term training programs were completed, and that with the notable exception of one of the SESA/DSA participants who did not return and chose to seek political asylum, participants returned to Rwanda to take up their posts, even if in some cases briefly.

Of the 8 participants in ASPAP-funded long-term training, 3 are currently working with DSA. Only one (Théobald Kampayana, M.S., Rural Sociology, MSU, 1990) has been back for more than one year. Samuel Munyaneza, M.S., Statistics, MSU, 1992, has proven instrumental in getting the triennial new sample selected. But, he has only been with DSA since January 1992. Jean-Léonard Ngirumwami, M.S., Agricultural Economics, MSU, 1992, returned a few days before ASPAP PACD and is expected to contribute to the development of DSA's analytical capacity over the life of the subsequent phase of USAID funding. Previous SESA/DSA Director, Serge Rwamasirabo, M.S., Agricultural Economics, MSU, 1990, departed May 1992 for a post with UNICEF-Rwanda after having returned to his post at DSA following his training. His post-training participation in DSA activities was limited by a 6-month detainment without charge immediately after the rebel invasion. Consequently, he spent less than 20 months with DSA following his return from training (6 months as Director before his arrest, 13 months as an analyst after his release).

Three of the four participants who were to work at MINIPLAN have left that organization, highlighting its inability to retain qualified personnel. For further details of the implementation of the long-term training program see LT Training Coordinator, Dan Clay's last Training Implementation Report (ADR No. 174, 175).

Table 2 also shows deliveries of short-term training, of which only overseas training is detailed. Short-term training was broken down conceptually into in-country training and overseas courses or seminars. It included workshops, seminars, and short courses in survey methods, statistical programming, word-processing, database management, and accounting, and was provided directly by the Contractor.

The overseas component of the short-term training program delivered 139.2 pm of training primarily in statistics and computer programming (ISPC, BUCEN), development management (Univ. of Pittsburgh), agricultural and economic policy and adjustment (Harvard Univ. [Kenya], CRED [Univ. of Michigan], CERDI [Univ. Clermont-Ferand, France]), and agricultural statistics (FAO). Deliveries of overseas short-term training were 239 percent of contracted amounts. In-country training, which amounted to 79.5 pm, was 318 percent of contracted amounts.

This does not, however, give a complete picture of Project-assisted or promoted training. Two other long-term training participants, whose training was not provided out of project funds were unquestionably "products" of the Project. ASPAP/DSA statistician/sampling specialist, Jean Kayitsinga, received an

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Table 2

TRAINING DELIVERIES	INITIAL CONTRACT	REVISED CONTR.	ACTUAL	CALENDAR				
				9/87-8/88	9/88-8/89	9/89-8/90	9/90-8/91	9/91-9/92
TOTAL TRAINING	242 pm	242 pm	331.2 pm					
LONG TERM TRAINING:	192	192	192.0					
<i>DSA:</i>	<i>95</i>	<i>96</i>	<i>107.0</i>	<i> </i>				
RWAMASIRABO, MS, AGECE			35	-----				
KAMPAYANA, MS, RSOC			24	-----				
NGARAMBE, MS, AGECE			24*		-----			
NGIRUMWAMI, MS, AGECE			24			-----		
<i>MINIPLAN:</i>	<i>48</i>	<i>48</i>	<i>53</i>		<i> </i>	<i> </i>	<i> </i>	<i> </i>
MUNYANEZA, MS, STAT			29		-----			
NSENGIMANA, ISPC, BUCEN			24		-----			
<i>EX-MINIFINECO:</i>	<i>48</i>	<i>48</i>	<i>53</i>		<i> </i>	<i> </i>	<i> </i>	<i> </i>
UWIZEYE, MS, ECON.			29		-----			
MUGESERA, MS, ECON			24		-----			
SHORT TERM TRAINING:	50	50	139.2					
<i>OF WHICH OVERSEAS:</i>	<i>25</i>	<i>25</i>	<i>59.7</i>	<i> </i>	<i> </i>	<i> </i>	<i> </i>	
SHINGIRO, ISPC, BUCEN			15.0	-----				
MUDACUMURA, "			14.0	-----				
STAFF ASPAP (4)			9.1	-----				
MUHINGABIRE, ISPC			15.0		-----			
BAGIRAMENSHI, PITT			2.3		-----			
RWAMASIRABO, HARV			1.1		-----			
NGIRUMWAMI, FAO			0.4			-----		
NGENDAHAYO, CRED			0.1				-----	
NGENDAHAYO, CERDI			2.3					-----
OTHER ST TRAINING			0.4					-----

Shaded area represents the period of civil disturbance and political instability following the October 1990 rebel invasion and the protracted border war in the north of the country.

M.S. in Rural Sociology/Statistics from MSU, and has continued to work towards a PhD in the same field at MSU. ASPAP/DSA special studies coordinator/policy analyst, Gédéon Mudacumura received his B.S. in Economic Policy from Penn. State University, Harrisburg after 15 months at ISPC, BUCEN, and an additional 24 months at Penn State, and will greatly help DSA improve its analytical capacity. Additionally, Laurence Uwamariya, analyst, and previous acting ASPAP/DSA Director, Anastase Murekezi, current Director, and analyst Pierre Rwalinda, participated in a two-month program in

economic development at CRED, University of Michigan, the last two returning just before PACD, the former being transferred upon her earlier return. Livestock analyst/survey specialist, Hyacinthe Fabiola spent 15 months in a survey methods program at ISPC, BUCEN. Her return will provide particular strength to the preparation of the annual production and livestock inventory reports. The last four short-term training programs were funded out of the local cost budget.

C. Project Outputs (as specified in PP and PRO-AG) (Indicators of Project Success)

Project outputs are by nature less quantifiable than inputs. Furthermore, the quality and results of training and technical assistance are difficult to measure. Consequently, the discussion of the extent to which the Project achieved its major objectives will focus less on numbers and more on perceptions, nuances, and anecdotal information. It will draw heavily on the findings of the mid-term and final project evaluations.

The mid-term evaluation considered ASPAP/SESA/DSA to have "...made some impressive gains" in its progress towards the achievement of these outputs/objectives. It considered ASPAP/DSA to be "...well on the way to producing well-trained staff, a maintainable data base, pertinent analyses and publications, and expert consulting services." It was not nearly as positive about the results of the other two participating agencies. At the final evaluation it was noted that "ASPAP is still far from perfect...", but that the project was, nonetheless, "...a successful one," in terms of the Project objectives and EOPS.

1. Rwandan staff trained in survey design, data collection, processing, and analysis

The combined efforts of sustained long- and short-term training programs as well as on-the-job training provided by TA were expected to result in this project output. The wording of the objective made it clear that what was desired was not simply a certain number of staff trained, formally or informally, but primarily the increased capacity of the participating institutions to conduct surveys and present results efficiently and rapidly, and in such a way as to inform policy makers of the impact of their decisions.

There is no doubt that ASPAP has developed a SESA/DSA staff that is capable of conducting large-scale surveys based on statistically-valid methods, or that that same staff is capable of computerizing, tabulating and analyzing the data generated from such surveys. In addition to the higher-level cadre, most of whom have received some additional ASPAP-financed formal training related to survey design, data collection, processing, and/or analysis, the field staff have regularly been trained in data collection methods for routine as well as one-time special studies. The 98 person field staff (78 secteur-based enumerators, 10 prefecture-based, motorcycle-equipped enumerators, and 10 prefecture survey supervisors) are routinely trained before each season of data collection as well as before each special survey with which they are involved.

This training has increased the general agricultural knowledge of enumerators at the same time that it has improved their ability to conduct a specific study. A notable example is the training provided the mobile enumerators for the root crops study: As part of their training, the enumerators received firsthand assistance from ISAR tubers scientists on the field identification and characterization of pests and diseases.

The final evaluation, while pointing to a number of weaknesses, concurred with the view of the government agencies, donor agencies, and international organizations with whom they spoke, "...that DSA's staff was the only group in the country who have competence in broad-based data collection and

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analysis of the rural sector." The evaluation team, upon reviewing DSA's data collection and analysis capability, confirmed "...much of this high regard for DSA."

There remains much to be done to enhance the quality of the field staff, and to improve the ability of higher-level staff to conduct analyses efficiently and rapidly and to provide written, timely results of DSA studies targeted to various "information consumers". How this can best be achieved will be discussed at greater length in the section responding to mid-term and final evaluation recommendations.

The principal weakness exhibited by DSA, according to the final evaluation, was its apparent difficulty presenting data, especially from routine data collection, in a form easily accessible to policy makers. This is a valid criticism shared by the mid-term evaluation. Of the 65 reports that have been published by ASPAP/SESA/DSA, few (11) have been based on the routine data--production, area, livestock, animal production, and yields--collected during the life of the project. Special studies have been published and disseminated with much greater efficiency and speed, for the most part, than have routine statistics. By PACD progress was being made to shorten the turn-around time from data collection to data presentation for the routine statistics, but these efforts need to continue.

Nonetheless, the high demand for the services of ASPAP/DSA analytical, survey, and data management staff to serve as expert consultants in a variety of studies and projects suggests that the Project has successfully achieved this objective. This will be discussed in greater detail below.

It should be noted that the Project Implementation Report (PIR) one year prior to PACD considered this output 80 percent complete, when only 132 pm of ST training had been provided, and many of the LT training participants had not yet returned.

2. Analyses and publications responding to policy makers' needs

A key component of this planned project output was to make analyses and prepare reports, which "...respond to the questions and information needs of policy makers" in a timely manner. The volume of reports and statistics that have been made available to policy makers and the international donor community is large (see Appendix C: ASPAP/DAI Reports bibliography, DSA publications list). Both the mid-term and final evaluations, however, criticized the Project for not doing a better job "marketing" the information DSA possesses.

Both evaluations criticized in particular the tardy release of statistical reports. The mid-term evaluation stated that DSA had given insufficient priority to the circulation of its reports, and suggested better dissemination of statistical data (in the form of reports) and a wider distribution of all DSA reports.

Many of the recommendations of the mid-term evaluation were being implemented by PACD. With the delayed publication of the 1989 statistical report, a statistical report series was begun. This was delayed for many reasons, the most important of which was the impact of the October 1990 rebel invasion and the ensuing detention without charge of the DSA director and the principal DSA computer programmer. DSA is still trying to recoup the loss of 1 person year of highly important personnel time that resulted from the 6 months of imprisonment of these two key staff. As of this writing, the 1990 statistical report is nearly at press, and the 1991 and 1992 data sets are being analyzed and tabulated. It is the objective of the DSA Division Chief that once the backlog is cleared, the unit will be able to produce annual statistical reports within 6 months of the end of the agricultural year, by March or April of the following calendar year.

In response to the criticism that ASPAP reports were not being widely distributed, the DSA has developed a mailing list of 160 offices and organizations to whom major reports are sent. This list has been computerized to facilitate updating, and is accompanied by a transmission sheet which permits the Division to keep records of mailings. The four major research and statistical documents (Publications) produced by DSA since March 1991 have been mailed to the offices and organizations on this list.³ However, even this approach appears to be inadequate. The final evaluation team noted that the heads of some important organizations claimed never to have seen copies of DSA reports. While there is reason to suspect that this may be due as much to inadequacies within these organizations' internal distribution systems, it remains a concern to DSA. By the time of the final evaluation the effects of the inadequacies pointed out at mid-term, were still obvious, but the groundwork had been laid to ensure broad and speedy distribution in the future.

One way DSA could improve its distribution and still avoid an expensive 'shotgun' approach, might be by developing a mailing list of key individuals to complement the organizational mailing list. Generally, DSA had shied away from mailing to individuals within organizations, because of the high probability of missing the intended recipient due to frequent government re-organizations and staff transfers. Having two lists, one organizational, the other individual, might be the way to solve the distribution problem and ensure that key individuals as well as important offices receive DSA reports.

In defense of the existing system, as of March 1991, with the mailing of each document, recipients receive updated lists of DSA publications as well as order forms, complete with prices, for subsequent orders. Working papers are distributed to a smaller group, but in the future will be distributed to the entire mailing list.

With the relatively high cost of publication in Rwanda (\$ 0.13 per page for 200 copies of a 50 page document, \$6.50 per document), one must think twice before using the shotgun approach to distribution. In addition to our mailing list of 160, which will probably increase by 25 percent to 200 once we include key individuals, numerous individuals and representatives of various organizations come directly to DSA to consult or purchase reports. To date, this year, 25 organizations or individuals have purchased over 200 DSA reports. During the same period, more than 40 individuals have consulted DSA reports using the Division's small and inadequate library.

During the life of the project, ASPAP has completed 19 special studies, ranging from a regional study of maize in the northwest of the country to an assessment of the nutritional status of rural mothers and small children. These studies have responded directly to the questions and information needs of policy makers, and have had substantial impact regionally and nationally on how the GOR and the donor community view the problems of Rwanda's agriculture and rural economy. This is discussed further in section DI.

DSA's routine statistics have only recently been presented in an annual statistical report format but have already become integral to the national agricultural extension service's commune-level data base, which has in the past been a parallel and competing source of prefectural and national-level agricultural statistics. The branch of the Ministry of Planning responsible for calculating national accounts also relies heavily on DSA's routine statistics on the agricultural sector.

³ DSA reports are classified into 3 major types: Publications, which receive the greatest in-house review and have the widest circulation; Working Papers (Documents de Travail), which receive less rigorous review and have a more limited circulation; and Reprints (Réimpressions) of documents based at least in part on DSA data but published elsewhere--Dissertations, Masters theses, etc.

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The September 1991 PIR considered this project output 60 percent complete well before the mobile survey team was established, the 1989 statistical report was produced, and before the establishment of a system of routine production of annual statistical reports. At the time of the PIR, the new distribution system was just beginning to be implemented.

3. Increased capacity to provide expert consultant services

Both the mid-term and the final evaluation teams took this output to mean the provision of expert consulting services in carrying-out sample-based special studies, of which numerous have been done. This report, however, views the objective in a more limited sense, since output two already addresses the issue of special studies: Output three is interpreted as referring to the provision of expert consulting services in sample selection, survey design (including questionnaire development), survey administration, data processing, data tabulation, and desk-top publishing by DSA staff for other agencies, above and beyond the design and administration of special studies.

Indicators of DSA's increased capacity to provide consulting services in these areas are mostly anecdotal because these services have rarely been performed under formal contracts. They include sampling and survey methodology assistance provided to agricultural projects in the prefecture of Gikongoro and courses in data base management and statistical and word processing programs provided for employees of other government services.

DSA survey and sampling staff helped the Projet de Developpement Agricole Nshili-Kivu (DANK) modify DSA's routine statistics survey methodology to conditions in the prefecture of Gikongoro. DANK enumerators were trained by DSA staff in methods used to record agricultural production, estimate crop densities, and measure field sizes. They were also provided with graduated buckets similar to the ones used by DSA for measuring agricultural production. By PACD, DANK was already using DSA survey methodology on its sample.

A more recent experience in providing expert consulting services in sampling and survey methodology was that provided the Projet de Developpement Agricole de Gikongoro (PDAG). The Projet Agro-Pastoral de Nyabisindu (PAP), the Projet Crête Zaïre-Nil, and the Projet de Developpement Rudasomwa also participated in the training as part of their collaboration with PDAG on development activities in the prefecture of Gikongoro. Although the PDAG enumerators as well as enumerators of the other projects were trained in time for them to begin to apply DSA methodology in their surveys for the 1992 agricultural year, they were unable to implement the new system until Season A of the 1993 agricultural year. Consequently, the outcome of their use of DSA methodology is not yet known. As of the 1993 agricultural year PDAG has been using DSA methodology on its sample of 208 households (including DSA households in the prefecture) in all 13 communes of the Gikongoro prefecture.

The Projet Agricole de Gitarama (PAG) and the Projet de Developpement Globale de Butare (DGB) have both approached DSA requesting expert consulting in survey methodology, and it is likely that they will receive similar assistance that provided to PDAG.

Expert consulting services have also been provided in database management and wordprocessing. Generally this type of assistance has been even less formalized than services provided in survey methods, and has often involved one-on-one assistance given by one or both of DSA's computer programmers to individuals from other offices or agencies. DSA has helped different branches of its own ministry as well as other branches of the government. Within MINAGRI DSA has helped train staff in database management and statistical programs, and in wordprocessing. DSA staff trained Direction Général des

Forêts staff in Lotus 123 and WordPerfect, Direction des Etudes et Plannification staff in DOS, WordPerfect and Lotus 123, helped staff of the project Plan Directeur de Mutara learn a database management package (Quattro Pro), and helped PDAG keypunch the data from its first season of data collection (SPSS/PC+). Elsewhere, DSA trained staff of the Direction Générale de l'Energie of the Ministère des Travaux Publiques et de l'Energie in WordPerfect and SPSS/PC for work on a charcoal development project. Subsequently, DSA helped keypunch data from a study conducted by the same Direction Générale. Assistance has also been provided in setting up computer hardware. For example, DSA staff installed a CD-Rom system for the Service National de Documentation.

To some extent the DSA must still rely on outside assistance for the more complicated aspects of sample selection and the determination of sample efficiency, but with time and added experience, DSA survey and sampling specialists will probably be able to provide superlative consulting services even in that area.

It should be kept in mind that such services are secondary to the activities which are at the core of DSA activities--collection and analysis of routine, baseline statistics and results of special policy-directed studies, and presentation of these results to policy makers. The mid-term evaluation warned against over emphasis on consulting (especially collaboration on special studies) to the detriment of the primary responsibilities. This same warning should apply to expert consulting services not directly related to special studies conducted by DSA. It is imperative that such activities be included in work plans to the extent possible, and that any protracted involvement in the provision of consulting services by any member or groups of members of DSA staff be known to all so fair assessments can be made as to that activity's impact on the achievement of other divisional objectives. Furthermore, inclusion in work plans will help ensure that such activities fit overall research priorities.

The September 1991 PIR considered this output (increased capacity to provide expert consultant services) 60 percent completed before the creation of the mobile survey team (equipe mobile), which greatly expanded DSA's special studies capacity and before the return of 3 long-term training participants, whose skills have advanced progress towards this objective.

4. Established and maintainable integrated data base useful for policy analysis

Since ASPAP's inception a great deal of progress has been made toward establishing and maintaining a data base that is useful for policy analysis. Most, if not all, of this progress has been at SESA/DSA, where IBM-XTs, ATs, and PC-2s are now routinely used to enter, clean, and manage data using SPSS/PC+ statistical program. The files are based on DSA's national sample of 2496 households, 1248 interviewed weekly and the rest monthly.

DSA's sample is national in that the probability that any primary survey unit (secteur) in the country had an equal chance of being selected, and within each secteur each household had an equal probability of being selected. The sample is stratified by prefecture and geographical region, permitting data for most variables to be extrapolated to the prefectural and national levels. Unfortunately, to date the resources have not been available to hire the additional enumerators or purchase the additional motorcycles necessary to permit stratification by agro-ecological zone (of which there are 12 or 18 depending on the classification system). There are 78 secteurs, between 6 and 10 by prefecture, according to the population of the prefecture. Within each secteur, sample households are clustered to accomodate enumeration by single enumerators on foot, each of whom must cover all the 32 households in the secteur. To avoid respondent fatigue and reduce the 'observation effect' the sample has been re-selected every three years; it was changed in 1989 and again in 1992. (For more information on sampling methodology and DSA survey methods see "Aperçu Historique et Methodologique - Enquête Nationale Agricole 1984", DSA Publication P.14 and ADR Nos. 196 and 200)

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All data from routine studies and special studies based on the national sample, are stored in SPSS format, and data from pre-ASPAP surveys have been transformed to SPSS format. All questionnaires administered to the DSA sample or sub-samples are coded by household and administrative region identification numbers, permitting different data sets to be linked for analysis. This is an extremely powerful and useful facility since it makes possible the analysis of relationships between key variables from separate surveys of the same households. Variables such as household size, income, and farm size, cropping choices, nutritional status, and sources of off-farm employment, for example, can be brought together for statistical, computer-based analysis.

DSA's special studies draw heavily on the existing data base of statistics on area, production, and yields, and more recently on the income and expenditure data. Because of the existing data, and because the sample retains most of the same households throughout each 3-year cycle, the special studies can be streamlined, interview time reduced, and variables from special studies can be combined with variables existing in the data base. Virtually all DSA's national sample-based special studies have drawn on the existing routine data base and, less frequently, on data from other special studies.

From 1986 onward the routine data are well documented both on computer files and on hard copy. Because of the standardization of the annual production, area, and yield files, this has been the relatively easy task. It has been more difficult to devise a system for documenting the data files generated for special studies. This remains a challenge and the principal weak point in the system of documentation of data files. The other weakness, as perceived by the final evaluation, is ease of access of files in the data base. Documentation should be made easier for the data user who is not familiar with SPSS, with the sampling methodology used, nor with the questionnaire administered for a particular study.

This output was considered 80 percent complete according to the September 1991 PIR, well before Lassiter's exhaustive documentation of the 1990 income and expenditure data set (RD). The RD data set will be instrumental in all subsequent policy analyses, and will be heavily relied upon in the analysis of other special studies. Lassiter's efforts provided the groundwork for the subsequent income and expenditure study (Loveridge, 1992) as well as providing an important model and template for management of subsequent years' income and expenditure files.

D. Progress Towards Meeting EOPS as specified in PP and PRO-AG

To some extent the EOPS (endo of project status) indicators overlap the project outputs discussed above. According to the PP, it should be according to these criteria that the project's success is determined. The final evaluation looked at each of the indicators of the EOPS and concluded that they had in general been successfully achieved, stating that, "...the overall impact [of the project on policy formulation] is impressive." It is of course difficult to impute direct cause-and-effect relationships between project activities and the evidence of successful attainment of EOPS, but the answer to the question "Was the EOPS attained?" can be deduced from both anecdotal and quantifiable information.

1. Improved agricultural policies and interventions

There was a sense on the part of the mid-term evaluation that little progress could be made in the area of improved agricultural policies and interventions since there were few obviously bad agricultural policies. There were, nonetheless, policies and interventions based on faulty information, and there were laws and economic, transport, and commercial policies that were inimical to the development of agriculture and the rural sector.

Possibly the most dramatic and direct effect DSA has had on policy was the effect its study of the bean sub-sector had on the debate on price fixing for certain agricultural commodities. For reasons apparently opposite to those used in many other countries in Africa, namely to subsidize rather than to tax agricultural production, Rwandan authorities had long maintained official prices for crops considered of great importance for food security or for the generation of hard currency. These prices had generally been higher than the market price, and could rarely be enforced outside of the minuscule purchases made by government agencies or parastatals. Among the crops whose prices were to be maintained artificially high were beans.

By the time the results of the bean study were released there were already opponents of this price policy. Some of the opposition to artificially high official prices was based on the pragmatic view that they could not be maintained, the government had nowhere near the resources nor the will to make the necessary purchases to have an impact on the market price. But there was some sense, too, that the very farmers who were to be helped by higher prices were not being helped. When the study found that Rwanda was not self-sufficient in beans, but was importing sizeable quantities from neighboring Zaïre and Uganda, it was realized that supporting bean prices, at least, was providing subsidies not to Rwandan farmers, but to Zaïrian and Ugandan farmers. That information combined with the pragmatic view that such prices could not be maintained, made it much easier for government authorities to eliminate most of the official prices in agriculture as part of its Structural Adjustment Program.

Other examples include DSA findings on the importance of wine (beer) bananas as a source of income exceeding and rivaling coffee for households growing both. The final evaluation compiled a list of instances in which ASPAP-funded analysis had influenced positively agricultural and rural policy and intervention. (Final Evaluation, pp 22-24) Briefly, the ASPAP-assisted Recurrent Cost Study and Communal Cost Recovery Program, initially at MINIFINECO, then at MINIPLAN, by confirming that local people were willing to pay for services they found of value, set in motion a policy debate on how best to establish a more comprehensive cost recovery program at the commune level. A more recent nutritional status study confirmed much of the conventional wisdom about malnutrition in Rwanda, but also provided evidence that malnutrition is not directly related to local food availability.

CIAT-ISAR's collaboration with DSA on a study looking at the extent of adoption of new pole bean varieties could provide a major breakthrough in thinking about the acceptability and impact of new agricultural technologies in Rwanda. Conventional wisdom suggests implies there are no technologies on the shelf that can increase agricultural productivity in Rwanda. DSA's national sample enabled CIAT to make this study of great importance to the technology debate as objectively as possible, avoiding biased samples.

When ONAPO developed a model to show policy makers the benefits of its family planning program, it turned to DSA to help it develop the agriculture component of the model. DSA provided data and hypotheses about trends in production, yield, and land area. ONAPO looks to collaborate with DSA for further modification of the model.

Several years ago OPROVIA realized that the data upon which it was making essential management decisions was faulty. They turned to DSA data, and have been using its data ever since.

The World Bank relied heavily on DSA data as well as discussions with DSA personnel in the elaboration of its 1989 agricultural assessment for Rwanda. It was as a result of these interactions with DSA that the World Bank commissioned DSA to conduct a study of coffee farmer attitudes and coffee growing practices.

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2. Increased demand of policy makers for information and analysis on the rural economy

Defining policy makers most broadly to include international organizations as well as individuals and agencies within the government of Rwanda, there has been a tremendous demand on the part of policy makers for information about and analysis of the rural economy. The burgeoning demand for special studies is the most obvious example of an increased demand for information generated by DSA. While much of the funding for special studies has come from donors, they have been responding to policy questions that are also central to Rwandan decision-makers.

Over the life of the project, 19 special studies have been conducted, and the results of 13 were published before PACD. Nearly all of the special studies have been outgrowths of policy-related discussions with diverse organizations, other divisions within the government, or donors.

Special studies conducted by DSA include studies of:

1. Root and tubers production (cassava and sweet potato) conducted collaboratively with ISAR, and with partial funding from CIP and IITA.
2. Nutritional status/anthropometry, partially funded by UNICEF.
3. Adoption and importance of climbing beans, with ISAR, with partial funding from CIAT.
4. Coffee producers and production techniques, partially funded by the World Bank.
5. Soil degradation, on a sub-sample of farmers.
6. Rice production in and around rice perimeters/projects, partially funded by Canadian International Development Agency.
7. Agroforestry practices and their effect on soil conservation/land degradation.
8. Gender and agriculture, on a sub-sample, partially funded by UNDP.
9. Women's role in agriculture.
10. Fertilizer and pesticide use, partially funded by the World Bank.
11. Non-agricultural strategies employed by rural households to ensure food and financial security.
12. Land-tenure issues, in collaboration with, and partially funded by the World Bank.
13. Sweet potato marketing by rural households (sub-sample).
14. Parallel market exchange rates in border areas and Kigali.
15. Sorghum and bean transactions.
16. Cross-border trade, partially funded by the World Bank.
17. Cropping patterns and land use in lowlands (marais).
18. Cost of rice production in rice perimeters.
19. Maize production in the Birunga Project Area, partially funded by the World Bank.

3. Stronger role for MINAGRI in agricultural policy formulation

The lines of command in agricultural policy formulation have never been clear. MINAGRI appears to have traditionally played a weak role in policy formulation. The Project has helped MINAGRI develop a stronger role, however, by improving the quality and increasing the quantity of MINAGRI-generated data on the agriculture sector, and by presenting those data in well thought out and well presented

reports. Here again, one of the best examples of this strengthening comes from the beans and sorghum study. It appears that in the price policy debate, MINAGRI was on the side in favor of abandoning official prices. Its position had not had much impact over the years that official prices were imposed on the market. When the results of the DSA study became available, however, the opponents of across-the-board official prices, MINAGRI principal among them, gained clout, and were able to convince proponents of price fixing of its futility and even its counter-productivity.

With the exposure gained by DSA, and DSA collaboration with other institutions and agencies--ISAR, OCIR-Café, the World Bank, CIP, UNDP, UNICEF, COSCA-IITA, CIAT, to name a few--MINAGRI's role in agricultural policy formulation has certainly increased.

Another good example of DSA-led MINAGRI insertion into agricultural policy formulation is the reliance on DSA statistics and reports in the publications of the 'blue ribbon' Commission Nationale d'Agriculture (CNA). The CNA was established in March 1990 by a Presidential Order to attempt to encapsulate the state of knowledge and the condition of Rwandan agriculture. Its dual objectives were to:

- * Present to the government viable and immediate options for the improvement of the agricultural sector and rural development; and
- * Present the outlines of a new agricultural policy aimed at unleashing the required revolution in agricultural production.

The makeup of the Commission attests to the seriousness with which the task was to be taken. It included:

- * As president, GASANA James, then Minister of Agriculture;
- * GAHAMANYI Léopold, then Permanent Secretary of the Plan Directeur du Mutara;
- * RUNYINYA Barabwiza, then Director of the Prime Minister's cabinet;
- * NSENGIYAREMYE Dismas, then Director of OVAPAM (Office pour la Valorisation des Produits Agricoles du Mutara (now Prime Minister);
- * RUHIGIRA Enoch, then Minister of Finance;
- * TEGERA Pierre, Director of PNAP (Projet Nationale pour l'Amelioration de la Pomme de Terre)
- * NDEREHEYE K. Ntahontuye, Director of ISAR; and,
- * The IWACU Center, a cooperative association, as secretariat.

Of the 9 volumes produced by the Commission, in three of them--Volume 3: Productions Agricoles du Rwanda; Volume 4: Disponibilité des terres, peuplement et environnement au Rwanda; and Volume 9: La commercialisation des produits agricoles--more than 1 out of every 5 citations or tables of statistics were ASPAP products (see Table 3). Nearly half of the tables presented in Volume 5, on Land Tenure, and Volume 9, on marketing of agricultural commodities, were drawn directly from ASPAP statistics. One-third of the references in Volume 3, on agricultural production and agroclimatic zones were ASPAP/DSA reports. In spite of the existence of extremely specialized volumes such as one on the development of water resources, and on cooperatives, overall DSA contributed 18 percent of all tables of the 9 volumes, 9 percent of all citations, and 14 percent of tables and citations combined.

4. Increased recognition on part of participating agencies (DSA, MINIPLAN, MINIFINECO) of their ability to be responsive to needs of policy makers

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Table 3

	Vol.1	Vol.2	Vol.3	Vol.4	Vol.5	Vol.6	Vol.7	Vol.8	Vol.9	All volumes
Tables in document	28	119	24	66	15	24			30	306
Percent ASPAP	18	8	21	21	40	4			47	18
Citations in document	40	62	19	19	49	20			16	225
Percent ASPAP	10	7	32	16	2	0			19	9
Tables and citations in document	68	181	43	85	64	44			46	531
Percent ASPAP	13	8	26	20	11	2			37	14

- Vol.1: - Allocation et exploitations des terrains de marais, Runyinya Barabwiriza (land allocation and use in bottomlands)
- Le terrassement pour la conservation des sols, Gasana James (terracing of slopes)
- Les cultures associées, Ruhigira Enoch (crop mixes/associations) NOVEMBRE 1990.
- Vol.2: - Appui à la production agricole, Ndercheye K. Ntahontuye (support to agricultural production)
- Analyse du sous-secteur des productions animales, Nsengiyaremye Dismas (animal production sub-sector) AVRIL 1991.
- Vol.3: - Les productions agricoles du Rwanda, Gasana James et Ruhigira Enoch (agricultural production)
- Les zones agro-climatiques, Gasana James JUIN 1991.
- Vol.4: - Disponibilité des terres, peuplement et environnement au Rwanda, Tegera Pierre (land availability, population and the environment) AOUT 1991.
- Vol.5: - Gestion du patrimoine foncier national, Runyinya Barabwiriza (land management) 1991.
- Vol.6: - Le Sous-Secteur Forestier, Gasana James (forestry)
- Le Développement des Ressources Halieutiques, Nsengiyaremye Dismas (water resources and fisheries) DECEMBRE 1991.
- Vol.7: - La Recherche Agricole au Rwanda, Gahamanyi Léopold (agricultural research) FEV 92.
- Vol.8: - L'auto-organisation du mouvement associatif rwandais, Centre IWACU (cooperative movement)
- Les politiques agricoles au Rwanda, Gahamanyi Léopold (agricultural policies) FEV 1992.
- Vol.9: - La commercialisation des produits agricoles, Ndercheye K. Ntahontuye (marketing) FEV 1991.

With the closing out of ASPAP activities at MINIFINECO (1989) and MINIPLAN (1991), the only participating agency remaining was DSA. During the years of ASPAP support SESA/DSA became increasingly aware of its ability to be responsive to the needs of policy makers. The numerous special studies it has conducted in collaboration with numerous organizations attest to that. Requests for more data, questions about methodology, and commendations from within the government (MINIPLAN Economic Policy Director's letter of commendation to DSA on its reporting of parallel market exchange rates, see Appendix D), as well as from without, showed that there was developing a feedback loop wherein DSA data would elicit further demands for information for policy analysis and formulation.

One example of DSA's increasing recognition of its key role for providing data and policy analysis in response to the needs of policy makers concerns the Structural Adjustment Program (SAP), and specifically the assessment of the social dimensions of the SAP. DSA recognized that it had very important longitudinal data that could provide "before and after pictures" of the rural economy and agriculture sector, and that the analyses of these data could aid policy makers chart Rwanda's course through its initial phases of structural adjustment. The DSA is well aware of its central role in the analysis of the effects of Rwanda's Structural Adjustment Program on the rural economy and agriculture. It possesses a multi-year database on household characteristics, production levels, area farmed, and crop choices, is refining an income and expenditure data set, and is developing a data set on nutritional status within households, which combined provide a potent information base with which to begin to make some assessments of the impact of structural adjustment on the agricultural and rural economy.

Furthermore, ISAR has expressed strong interest in using DSA to help evaluate the adoption of new technologies or varieties developed or adapted at ISAR. This interest is the outcome of collaboration with DSA on studies of sweet potatoes, cassava, and new bean varieties. While it is not clear how DSA might best help ISAR while at the same time maintaining its objectivity, this is an example of the kind of institutional interaction which has reinforced DSA's sense of mission in policy analysis, and its confidence that it has information that is valuable and valued.

5. Improved collaboration in analysis and policy formulation for the rural sector

Every special study conducted by DSA has been the result of discussions with other institutions. All have been conducted in close collaboration with other institutions, usually but not always those funding the study. The land-tenure study, for example, was not only funded by the World Bank, its staff worked closely with DSA staff in adapting the questionnaire to local conditions and in fielding the survey on DSA's national sample, as well as in data management. A study (subsequently aborted because of lack of funds) of women in development was conducted with UNDP in order to provide the UN agency with information necessary to conduct a seminar on the same topic. The agroforestry study was done without outside funding, but is an example of intra-ministerial collaboration. Staff from the forestry department of MINAGRI worked closely with DSA staff in questionnaire development, enumerator training, and data analysis.

Other examples of steady progress towards successful achievement of this EOPS include the development of DSA's professional and institutional relationship with other data sources. To eliminate duplication of agricultural data collection within MINAGRI, steps have been taken to make DSA the principal collector and provider of national and prefectural level agricultural and rural data. That this has been institutionalized is clear in the extension-based system's reluctance to prepare commune-level statistics without first having consulted DSA statistics. The extension-based system had previously been the sole provider of agricultural statistics, and remains the sole source of information at administrative levels below the prefecture (sub-prefecture, commune, and secteur). For a time it operated parallel to DSA's sample-based system, but has since left DSA as the sole source of production, area and yield information at the national and prefectural levels. That this is so is alleviated by the extension-based system's inability or unwillingness to produce its annual report, wherein prefectural and national level statistics are presented, without using preliminary tables from DSA.

At the inter-ministerial level, a defacto agreement has been reached between MINIPLAN, which has the mandate to conduct all national-level surveys or censuses, and MINAGRI, that accepts MINAGRI/DSA expertise in rural surveys and MINIPLAN expertise in urban surveys. DSA has unofficially been given the right to conduct rural and agricultural surveys as MINAGRI/DSA sees fit. The final evaluation suggested this right, which is based on a realization of DSA capability, be formalized by law.

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6. An on-going policy dialogue established between professionals of the Participating Agencies (MINAGRI and MINIPLAN) and members at the technical level of the Interministerial Coordinating Committee for Rural Development and Health and other interministerial coordinating committees (CICs), as appropriate

This indicator was based on the premise that the CICs would be operational and key players in policy formulation ("the policy debate"). They would provide the broad guidelines for project activities. In fact the CICs were little more than paper committees, and as early as 1989, PIRs considered this objective "...no longer appropriate, partially because the CICs rarely meet." (PIR, 10/17/89) Instead, the coordination for project activities in the participating agencies came from the Project Technical Group (PTG) composed of the Project Manager (ADO's office), and the Directors of the participating agencies. The PTG was, in turn, to be directed by a "comité de gestion", which was never well defined. The mid-term evaluation suggested that since the CIC to which the participating agencies were accountable had no role in ASPAP, a new "comité de gestion" should be created, made up of representatives of MINAGRI, MINIPLAN, other ministries, IAMSEA, and UNR, which would meet at least twice a year to give direction to the project.

In the final analysis, only the PTG continued to provide direction to, and coordination of project activities. And even that was done less frequently as the number of participating agencies went from three to one over the life of the project.

7. A more informed GOR/AID policy dialogue based on the information produced by Project-sponsored surveys and studies

The 19 special studies generated by ASPAP over the five-year life of the project have provided substantial information with which to assess Rwanda's agricultural and rural conditions. They have also provided the focus for much of the debate (policy as well as technical) on topics such as land tenure, land use, land degradation, off-farm employment, technology adoption, crop mixes, farm size and fragmentation, changes in animal husbandry, type of livestock kept by farmers, importance of beer bananas as a source of income, gender and agriculture, commercialization of agriculture, importance and nature of cross-border trade, and rural and urban income and expenditure levels, amounts, composition, etc. (see Appendix C for topics). The routine data collection has provided the data base with which the special studies are enriched, and which permit further analyses, in essence to answer the myriad questions invariably raised with each special study.

The USAID mission to Rwanda has relied on ASPAP analysis in the development of its new Country Program Strategic Plan (CPSP) (May 1992). The CPSP represents a distillation of USAID's thinking about Rwanda's socio-economic and demographic situation, and will certainly become the focus for GOR/AID policy dialogue. Hence, DSA contribution to the CPSP means DSA contribution, on the USAID side, to the policy dialogue. More than one-quarter of the CPSP bibliography for the Economic and Social and Agricultural sections are of ASPAP reports. Nearly half (5 of 11) of the numbered statistical tables are based directly on ASPAP analyses. DSA's contribution to the GOR side of the dialogue has already been documented above.

E. Implementation of Mid-Term Evaluation Recommendations

While the mid-term evaluation characterized the Project as generally "...a very good one.", it had numerous recommendations for the improvement of project activities and for achievement of the Project purpose and outputs. Only those for which implementation was the responsibility of either SESA/DSA or the Contractor are discussed here. Each recommendation is followed by a brief assessment of whether and how it was implemented, and if not implemented, why it was considered inapplicable. The recommendations are grouped into "Actions" as they appeared in the Project Evaluation Summary (PES) (those not having direct bearing on meeting project technical objectives are omitted). Most of the mid-term recommendations had been implemented by PACD.

- * Create a distribution list and take steps to expand the distribution of SESA studies and production data

Although more can and should be done to expand and target the distribution of statistical reports and survey results, much has been done to respond to this recommendation. As of March 1991, with the arrival of the Policy Analyst/Special Studies Coordinator, the distribution list and list of ASPAP publications were updated. The distribution list was computerized and a document for recording document mailings was created. By PACD a distribution system was established. Immediately after printing, all Project publications are mailed to addresses on a list of 160 organizations and offices. Each mailing includes an updated list of publications (with prices) as well as an order form for subsequent ordering.

- * Prepare near- and long-term work plans aimed at setting research priorities, taking into account SESA's research strengths and available resources

The mid-term evaluation warned that in the absence of clear work plans incorporating research priorities, special studies and other contractual relationships could end up driving the research agenda. This remains a problem in spite of the great strides that have been made, especially on the part of DSA, to develop detailed annual work plans that serve as activities tracking tools. Unfortunately, these highly detailed work plans, while doing a fine job aiding the planning and tracking process, do not address the question of research themes, which is more philosophical in nature. While the 1991 and 1992 work plans provide good models for planning and managing a growing and increasingly complex organization, they need to be backed up by greater thematic input from key GOR data users as well as data users in the donor community. Furthermore, work plans are only half useful if they are not regularly consulted and updated and used to track progress. The lack of regular tracking/planning meetings continues to be a principal weakness of DSA.

- * Propose to the Minister (MINAGRI) a limited pilot study to determine the feasibility of harmonization (cost, type of system, level of exactitude necessary, etc.)

Harmonization, which encapsulates the idea that the two principal, heretofore parallel, systems of data collection within MINAGRI can be blended to produce a statistically-sound set of basic agricultural and rural data down to the Commune level, has been an important issue throughout the life of the Project. Even though ASPAP/DSA studies have shown repeatedly that providing statistically viable data down to the Commune level using sample survey methods employed by DSA would be infeasible because of high cost, there remains substantial pressure from within MINAGRI and without for DSA to do just that. The GOR is determined to use communes as the unit for planning, but realizes the need for viable commune-level statistics. As of PACD, the issue remained dormant. Proposals and counter-proposals have been made (see DSA Documents de Travail N°s DT 12, DT 15, and DT 34 for DSA proposals). The last DSA proposal was put on hold by MINAGRI for lack of funding.

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* Review the need for low-level aerial photography

The Slaymaker/Aderhold study was the first and last Project activity on low-level aerial photography. A decision concerning the recommendations of the study was put on hold pending the return from long term training in MSU of SESA/DSA director, Rwamasirabo, who rejected it as not appropriate to Rwanda's needs or level of technology. The mid-term evaluation suggested this decision be reviewed. Subsequently, review was made and the decision was to discontinue the study and not to pursue low-level aerial photography.

* Revise the terms of reference for the MINIPLAN advisor

Terms of reference for the LTTA economist at MINIPLAN were revised. Ultimately, the working conditions at MINIPLAN deteriorated to such a point that, not having any counterparts, the MINIPLAN advisor was unable to function to capacity. He was ultimately moved to DSA.

* Develop terms of reference for a Comité de Gestion, which would include GOR data users and would be set up in order to get the input from outsiders on ASPAP's research agenda and program

It is not clear whether the recommended Comité de Gestion ever functioned. It was to have replaced in function the CIC which was to have had oversight for Project direction and development of a research agenda. Input from outside users of DSA statistics and analyses came primarily from interaction in seminars, workshops, and collaboration in conducting special studies, there was no formalized comité de gestion to direct project activities through the PTG.

* Recruit a financial manager/controller to work under the direction of the SESA director

A financial manager/controller/chief accountant was recruited to help solve the local accounting problems of SESA/DSA. The GOR accounting system previously employed by SESA/DSA was incompatible with USAID accounting requirements. This often caused delays in reimbursement of expenditures as well as USAID Rwanda disallowances of ASPAP expenses.

The accountant who was hired to help put an end to this incompatibility, apparently exacerbated it by engaging in fraud and embezzlement. His subsequent firing and indictment on fraud and embezzlement charges plunged the accounting system into deeper disarray. Much of the malfeasance was uncovered during the 1991 audit whose recommendations were rapidly being implemented by PACD by the new Director and new chief accountant.

* Review the local cost accounting system with the objective of improving its informativeness for both SESA and USAID

The implementation of this recommendation would enable timely USAID reimbursement of local cost expenses incurred by DSA. At one point, there was even the promise of cash advances to DSA to further alleviate cash shortages. By PACD a system was in place which served USAID and MINAGRI accounting requirements, thereby enabling USAID Rwanda to speed up a laborious voucher approval and cost reimbursement process.

IV. RECOMMENDATIONS OF PROJECT FINAL EVALUATION

The project final evaluation described ASPAP as a successful project. Broadly, its recommendations had to do with strengthening DSA capability in three areas: 1) Expanding impact on policy issues, 2) reinforcing technical operations, and 3) reinforcing operational and organizational structures. (Final Evaluation, pp 1 & 2) These are especially pertinent for the next phase of technical assistance to DSA.

First, the final evaluation suggested that in order to expand its impact on policy DSA would need to address four inter-related areas:

1. Take a marketing point of view in distribution of its data and analysis;
2. Improve its presentation capability of information through increased use of desk-top publishing, graphics, thematic maps, etc.;
3. Develop a catalog of data parameters in its data bases to enable potential users to better appreciate what DSA has to offer; and
4. Review document distribution system to improve its effectiveness, and monitor the process more closely.

The final evaluation further recommended that reinforcement of DSA's technical operations could be made through stressing four additional points:

1. Improved understanding of the farming systems found in Rwanda, with an eye to increasing the accuracy of its survey techniques. Of special interest should be attribution of areas to crops;
2. Provide more sophisticated and better field equipment to its staff to increase accuracy and efficiency in its survey work;
3. Establish systems to improve its data management for more efficient data retrieval and verification; and
4. Develop arbitration process within MINAGRI between the data collected by Monagris and those collected by DSA, to facilitate both efforts.

Finally, the final evaluation presented five recommendations to reinforce operational and organizational structures of DSA. These included:

1. Appointment of a Deputy Division Chief who would serve as production manager and coordinator of DSA's published outputs;
2. Development of an Action Plan to speed up production of yet unpublished statistical reports;
3. Establishment of clear priorities in DSA work, with clear separation between routine and special studies. Keep special studies closely linked to overall research objectives;
4. Development by USAID, and possibly other donors, of long-term plan for financial support of DSA; and
5. Maintenance of a system of bonuses, imperative if DSA is to retain its trained staff.

The pertinence and feasibility of these recommendations are reviewed in the paragraphs below.

The weakest aspect of ASPAP activities has perpetually been in ensuring that the results of participating agencies' work reach the intended audience. Both the mid-term and the final evaluation reports pointed this out. Improvements have been made, but there is clearly much that can be done. With the return of three analysts towards the end of the project and the possible return of one who had been transferred

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elsewhere in MINAGRI, there is a good chance that this weakness can be turned around, and that the "marketing" of DSA results can become one of its strong points.

A point worth reiterating, however, is that before engaging in any marketing, DSA must ensure "quality control". The priority should remain the accurate collection and timely analysis of quality data on agriculture and the rural economy. It is unfortunate that ASPAP was not able to do more in terms of "marketing", but it is clear that the statistics generated by ASPAP and the findings of ASPAP-led special studies have made their mark on Rwanda's agricultural policy. It was not a mistake on the part of the Project to concentrate scarce resources on the core activities of the project, which was to improve the quality and increase the quantity of the information base from which policy is formulated.

The recommendations aimed at the reinforcement of technical operations are well taken. The technical problem of attribution of areas to crops where fields are multiple-cropped (crop associations) is difficult anywhere, but possibly especially so in Rwanda, where fields are under near-constant cultivation, and crop associations are numerous. It is the opinion of DSA that its system using crop densities combines reasonable accuracy and speed, and is thereby the correct approach given the conditions. However, any modifications which might improve both accuracy and speed, or one without reducing the other would be welcome, and in that light, DSA should consider the detailed recommendations on area attribution in Appendix E1 of the Final Evaluation Report.

The procurement of better, more sophisticated field equipment for field staff would be welcome. There are two caveats to this recommendation. First, the cost. Second, the question of how well a field staff with an overall low level of education would use more sophisticated equipment.

Data management and documentation is relatively well established for the routine statistics on production, area farmed, and yields, but could be made more "user-friendly". On the other hand, there is the question of how and by whom the data will be used, and to what extent users of "raw data" will have some idea of what the data really mean. Also, who should have access to raw data or two tables without accompanying contextualizing text, is a question that needs to be answered before DSA progresses further on this recommendation. The data from special studies has, as yet, no standardized documentation other than that they are all in SPSS/PC system, log, listing, or program files.

Recommendation 4 for technical operations touches on the on-going debate about the "harmonization" of the data collection system using *moniteurs agricoles*, and DSA's sample survey system of data collection. DSA has made proposals to improve the way *moniteurs agricoles* collect data at the sector and commune levels. The proposals have been accepted, but lacking funds, have not been carried out. The default relationship between the systems is that the Monagri method relies heavily on DSA, but DSA doesn't consider data generated by the Monagri system.

The final evaluation also suggested in discussions that the legal status of DSA vis conducting national surveys be clarified and that the DSA be elevated from Divisional to Directorate status to increase the chances of its having direct policy-making involvement.

ASPAP/DSA advisors (TA) agree with the recommendations for the reinforcement of operational and organizational structures. DSA should have legal status to conduct surveys in the rural areas. It has demonstrated and unparalleled capacity to do so. It only makes sense that it have the legal right. Currently, there is an accepted status-quo in which MINIPLAN is responsible for national censuses and national non-agricultural surveys, as well as all urban surveys, and MINAGRI is responsible for agricultural and rural surveys.

Elevating DSA to directorate status would seem a sure way to increase its impact on policy formulation. Having a Deputy Division Chief with real decision-making powers and real responsibility for the day to day operation of the technical/analytical side of DSA's operations could improve effectiveness. But, only if this would ensure regular planning and tracking meetings and some coordination of the diverse tasks involved in data collection and analysis. The Division Chief is aware of this, but would rather the position be unofficial. It is his preference that a senior analyst assume certain responsibilities that the Chief is unable to carry out because of over-commitments.

DSA has instituted an Action Plan to speed up the production of its backlog of statistical and special studies reports. The return of long term and short term training participants, as well the creative use of former DSA staff on sub-contracts, has done much to clear the backlog.

It is difficult for DSA independently to set priorities for its work, it is a division within a directorate, under a ministry, each level technically having a say in the development of priorities. Nonetheless, with the help of FS-II, research priorities are being set for the next 3 to 5 years (depending on the length of financial and technical support USAID will provide under FS-II). To date, the process of developing annual work plans has been DSA's best effort at setting priorities. Unfortunately, its work plans have not yet proven to be dynamic tools, partly because they have rarely been based on accurate estimates of the amount of resources--personnel, time, equipment--needed, tending instead to underestimate resource needs. Furthermore, clear priorities have not been established, rather the urgent has been tended to while often the priorities have been neglected.

One reason special studies cannot be relied upon for the institutional viability of DSA is because of the effect over-reliance on special studies would have on the establishment of research priorities. There is the clear risk (it was already evident by ASPAP PACD) that special studies deadlines and priorities could become DSA priorities, essentially making DSA into a "bureau d'études", doing anything and everything to which a budget was attached. So, even if special studies could keep DSA financially viable, it is almost certain that a heavy special studies burden would erode DSA's capacity to set its own research agenda, based on GOR agricultural priorities as expressed through MINAGRI.

Whether salary supplements per se are necessary for DSA to retain its best qualified staff is not clear. What is certain, however, is that removing supplements that have been received in the past will demoralize an otherwise highly motivated staff. It is not so much the lack of supplements per se that is a problem; there are many other incentives for high quality work at DSA. It is rather the removal of what has come to be considered a right that could erode morale and lead to the departure of DSA's best staff.

V. FINANCIAL STATUS OF THE INSTITUTIONAL CONTRACT

Appendix E (Summary of Cumulative ASPAP/DAI Expenditures) provides a summary of the cumulative ASPAP/DAI expenditures based on the most recent accounting data--through PACD. Subsequent expenditures will be small, essentially comprising costs of mailing project material to the Contractor's home office, and other close-out costs, including Contractor Representative salary for the month of October. The budget amounts are based on the 6/28/91 ASPAP/DAI contract amendment No. 3. MSU billings are through July 1992; the final status will differ primarily by the amount of MSU August and September billings.

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As of September 1992, ASPAP/DAI contract cumulative expenditures were 89.1% of the budget as amended in contract amendment No. 3. Amendment No. 7 (8/16/92) done to reflect the early departure of Contractor Representative, Lassiter, presents a modified budget whose overall amounts are:

Total Estimated Cost	\$4,652,802
Fixed Fee	<u>284,334</u>
Total Estimated Cost plus Fixed Fee	\$4,937,136

Contract cumulative expenditures, as of September 1992, were 90.3% of the amended budget. With billing for the remainder (\$27,694.67) of DAI's Fixed Fee and inclusion of one-half of the MSU budget unspent as of July 1992 (\$34,452), cumulative expenditures at PACD will be 91.5% of the budget amount in contract amendment No. 7 (\$4,519,101.12) and 90.4% of the budget amount in ASPAP/DAI contract amendment No. 3.

Of the \$5,000,000 obligated for the ASPAP/DAI contract budget, roughly \$480,000 will be unspent after final payment of Project-reimbursable expenses.⁴ At PACD, the Contractor notified REDSO and USAID/Rwanda that \$250,000 of that could be de-obligated immediately.

VI. LESSONS LEARNED AND RECOMMENDATIONS FOR FOLLOW-ON PROJECT

Throughout the life of ASPAP there has been a feeling of unease, in spite of the Project's many documented successes, that the project purpose was not being met. The mid-term evaluation suggested this was largely because of policy-making naivete on the part of Project designers.

The final evaluation made a telling point when it suggested that the principal problem was that it had never been clearly spelled out or understood who the policy makers were, nor how policy was made. The final evaluation criticized the unwillingness or inability on the part of project designers to realize that policy "...is made inherently by a political process." Policy is not formulated in the same scientific and methodological way that data are collected or analysis is made. Hence, other than providing quality data and analyses, it was never clear how, aside from being directed by (non-operational) CICs, Project activities would improve policy formulation. The final evaluation mentions further that,

Throughout the project paper and terms of reference of this evaluation, reference is repeatedly made to policy makers but these are never defined. By removing politics from policy making, one creates a condition that would be impossible for a project to fulfill. (Final Evaluation, p. 43)

Because of the relatively nebulous definition of policy-making throughout project documentation, it is not surprising that project implementation focused on the more clear-cut side--data collection and analysis. But even here it was more the data collection than the data analysis that was emphasized. A principal reason for that was that much of the analytical staff was on long- or short-term training throughout the life of the project. It appears in retrospect that non-training objectives of the Project were

⁴ This depends, of course, on Michigan State University's August and September billings, as well as on minor project closing costs.

made assuming the full complement of trained staff that DSA would have only by the end of the project!

This is the reason former Contractor Representative, Lassiter suggested that the phase of assistance to DSA under ASPAP be considered stage 2 of a three-stage process, the last stage being the period wherein much of the interesting policy analysis would be done. (see Appendix F: Lassiter Memo on Future Support to DSA) If, as is implicitly assumed by the project designers, one of the weaknesses in Rwanda's data collection and analysis capability was the lack of trained personnel, then the bulk of substantive work of the participating agencies would by necessity occur after trainees had returned. This is precisely what is foreseen with stage 3. Stage 1, under ASAP, represented the establishment of a data collection and analysis institution. Stage 2, under ASPAP, was the phase in which human resources of the institution were strengthened. And stage 3, is where the strengthened institution and the trained staff combine to deliver policy-related analysis to "...improve policy formulation for the rural economy..." as is sought in the project purpose.

An inherent flaw in the long-term training was the under-staffing of DSA in trained analytical personnel for much of the project's life. The most evident example was the lack of sustained leadership from ASPAP Directors throughout the project. For the first two years the Director was away for training. During that time there were a number of interim Directors, none of whom felt sufficiently confident or qualified to lead or coordinate project activities. If a Director must leave early in the life of the project, sufficient thought must be given to lines of command and responsibility among the remaining staff so key activities can be maintained even over prolonged absences.

Also, LTTA in MINIPLAN was under-utilized, and, not having consistent counterparts, did not work well as an on-the-job trainer, which was to be an indispensable part of all TA.

Within DSA, a serious weakness was the lack of attention to publications and the dissemination of information derived from DSA studies and analyses. This stemmed in part from DSA's chronic under-staffing, related partly to the training calendar. Furthermore, the cumbersome nature of highly formalized seminars that tend to be the rule in Rwanda, effectively kept many planned seminars from taking place. DSA staff were already extremely busy, and could not absorb the additional work of holding high profile seminars. To some extent this has been resolved by holding less formal mini-seminars, briefings, and targeted workshops. While they may not be high profile, they do get done and get the message out.

The lack of clearly defined lines of responsibility, primarily among the analysis staff, remains a brake on DSA efficiency. This should be resolved with the establishment of a coordinator of the analytical/technical section of DSA. The coordinator would be responsible for holding regular tracking meetings and updating and modifying workplans. One of the MSU/DAI expatriate researchers might be expected to work closely with this coordinator in the next (FS-II) phase of support to DSA. To maintain collegiality and avoid the hardening of hierarchical relationships among analysts, it would be advisable that this position be annual and rotating among analysts of a certain level of experience and training.

The lack of regular tracking meetings continues to plague the effectiveness of the organization and its efficiency. This is becoming more critical as DSA grows and its activities require greater coordination. The growth of special studies and the corresponding need to coordinate field supervision, data verification and data entry with the routine studies is an example. Similarly, the increasing emphasis on small seminars, policy briefings will require careful planning and tracking if DSA resources are to be used efficiently.

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Still insufficient computer skills of analysts and other staff who frequently use computers (national supervisor, secretaries, etc.). This insufficiency is most evident in the lack of word processing and desk-top publishing skills needed to produce statistical reports or the results of special studies. But it also creates inefficiencies in data management and analysis, where facility with Lotus 123 and, especially, SPSS/PC is a must. More attention needs to be given to providing further, probably in-house, training in the big three computer programs used at DSA--SPSS, WordPerfect, and Lotus 123. To improve desk-top publishing and the presentability of reports, it would be useful for analysts to become familiar with graphics programs such as Harvard Graphics, or the sub-programs in SPSS and Lotus 123.

Another area of weakness has been in project management. This component of the project was criticized by both the mid-term and the final evaluation. Much of the problem, as recognized by both evaluations, stems from USAID/Rwanda under-staffing. But there was the sense on the part of DSA staff, including TA, that project management was distant, and often more interested in finger pointing than in helping solve problems and ensure the success of the project.

Another important concern to DSA should be how to increase the efficiency and statistical viability of its sample. Many of these concerns are presented in the final evaluation, Greg Lassiter's memo (Appendix F) and in Megill's technical reports (ADR 196 and 200). The sample would be made more useful to researchers if stratification could be made at the 12 agro-climatic zone level (the more recent sub-division of the 12 to 18 regions cuts across secteurs, thereby rendering it of little use in sample stratification). This would enable analysis to be made of the effects of climate and soil type on agricultural production, productivity and rural welfare. Such a stratification, impossible with the current resources, would render the sample exceedingly useful for targeting agricultural research.

In spite of these many areas of concern, with ASAP and ASPAP assistance DSA has built an agricultural and rural database unique in Africa for its quality and coverage. While the ability of the staff to analyse this data has lagged, largely for reasons spelled out above, it too has the potential to be unparalleled in Africa for its positive impact on agricultural and rural policy formulation.

Appendix A: Long Term Technical Assistance Terms of Reference

Termes de Référence

Consultant: Dr. Greg Lassiter, Economiste Agricole

Titre du Poste: Economiste Agricole à ASPAP/DSA et Représentant du Contractant Development Alternatives, Inc. au Projet ASPAP

Poste Budgétaire: Assistance Technique de Longue Durée (LTTA) à ASPAP/DSA (48 p.m. DAI)

Durée: 48 mois à partir du 25 août 1987 (5 j./sem.)

Dates Prévues: 25/8/87 au 24/8/91

Objectifs par ordre de priorité (pourcentage de la charge entre parenthèses):

Tâches Administratives:

1. (60%) Prendre en charge des responsabilités administratives globales de l'exécution du contrat ASPAP/DAI en titre de "Représentant du Contractant", telles que :
 - a. (30%) comptabilité habituelle, communications avec le siège de DAI/W, supervision du personnel local, communications avec l'AID/R, approvisionnement, publications ASPAP/DAI, traductions, entretien des équipements, révisions semestrielles du budget de l'ASPAP/DAI et du budget du sous-contrat MSU, demandes et négociations d'amendements au contrat et au budget de l'ASPAP/DAI
 - b. (10%) coordination et soutien administratif pour les assistants techniques de courte et longue durée : communications, définition des termes de référence, réunions d'orientation, logistique et voyages, dédouanement, résolution de problèmes
 - c. (5%) production des rapports habituels : rapports semestriels, rapports trimestriels de comptabilité, rapports divers
 - d. (5%) administration de la formation : coordination de la formation courte durée planification et budgétisation des activités restantes de formation de CD, communications et négociations résultant des problèmes d'exécution des sous-contrats de formation, résolution des problèmes des stagiaires de longue durée, communications sur la formation de LD
 - e. (10%) coordination de l'ASPAP/DAI : Réunions du Groupe Technique du Projet (GTP) de l'ASPAP ; réunions, négociations, et communications relatives aux conflits entre la DSA, ex-MINIFINECO, MINIPLAN, et l'AID/R provenant des problèmes relatifs aux coûts locaux, à l'approvisionnement en équipement, au dépassement du budget de l'Ex-FINECO

Assistance Technique:

2. (15%) En collaboration avec les homologues de la DSA, aider au développement et à l'amélioration du système de méthodologie des enquêtes :
 - a. (3%) révision des méthodes de mesurage et collecte des statistiques (densités de cultures, superficies des champs, et rendements), amélioration des techniques de mesurage (calculatrices programmables, planchettes angulaires)
 - b. (3%) révision des questionnaires (densités de cultures, superficie, production, revenus-dépenses, caractéristiques démographiques, prévision des récoltes, élevage, et études ponctuelles) et le système de publication, ventilation, et organisation des questionnaires
 - c. (3%) réunions de planification de supervision et contrôle de collecte des données, rédaction du calendrier saisonnière des activités sur terrain et manuel de l'enquêteur, formation et supervision des enquêteurs, vérification de données (particulièrement sur l'Enquête Revenus-Dépenses)
 - d. (3%) révision et analyse du système de l'échantillonnage, analyse de

grappes et "design effects" (analyse des variances dues aux effets des grappes dans un échantillon stratifié à deux niveaux), restructuration de l'échantillon de 1989, et planification du système de l'échantillonnage de 1992

- e. (3%) planification et budgétisation des études ponctuelles, négociation des contrats et budgets des études avec des clients de la DSA, participation (limitée) dans l'élaboration et exécution des études ponctuelles
3. (15%) En collaboration avec les homologues de la DSA, aider au développement et à l'amélioration du système informatique :
- a. (2%) spécification des besoins en ordinateurs, périphériques, et logiciels; installation, test, et entretien des périphériques et logiciels;
 - b. (2%) installation et entretiens des logiciels (SPSS, Lotus, Wordperfect, Harvard Graphics, Dbase, Norton Utilities, logiciels divers) sur les ordinateurs
 - c. (1%) coordination de l'entretien et la réparation des ordinateurs
 - d. (1%) révision et documentation des logiciels des calculatrices programmables pour calculer les superficies des champs,
 - e. (1%) réorganisation du système de saisie, nettoyage, et de gestion de données en vigueur à la DSA
 - f. (5%) élaboration des programmes modèles de saisie, nettoyage, et tabulation de données de densité, superficie, rendement, production agricole, et revenus-dépenses
 - g. (1%) nettoyage et analyse des facteurs de conversion du poids des bananes, correction et mise à jour des facteurs de pondération de la population sur base du recensement préliminaire réalisé par l'ONAPO en 1990, correction et mise à jour des coefficients du volume et du poids pour les cultures et unités de mesure enquêtées, mise à jour des coefficients pour le calcul de la valeur nutritive (Kcal, protéines et lipides) des cultures enquêtées
 - h. (1%) élaboration d'un système informatisé de documentation et de gestion de données pour les fichiers de données de densité, superficie, rendement, production agricole, et revenus-dépenses
 - i. (1%) suivi des activités de traitement des données relatifs aux études ponctuelles
4. (5%) En collaboration avec les homologues de la DSA, participer dans les analyses et la distribution des résultats :
- a. (3%) analyse économique des données de la DSA du point de vue de l'impact des politiques agricoles et économiques sur le secteur rural
 - b. (2%) rédaction des rapports finals et présentation des résultats aux séminaires, suivants les besoins
5. (5%) Suivant les besoins, fournir les cours ou séminaires afin d'assurer la formation de courte durée au personnel de la DSA dans les matières telles que :
- a. (2%) méthodologies des enquêtes
 - b. (2%) utilisation des logiciels
 - c. (1%) techniques d'analyse économique

Rapports à Fournir:

1. Rapports semestriel des activités du contrat ASPAP/DAI (20 - 40 pages chacun) comportant :

- a. sommaire des activités d'assistance technique et formation effectuées pendant le semestre
 - b. sommaire de problèmes rencontrés et recommandations pour les résoudre
 - c. plan du travail pour le semestre suivant
2. Publications des programmes modèles et de documentation des fichiers
 3. Rapports d'analyse des résultats (suivant les besoins des études en cours et le plan du travail actuel)

TERMS OF REFERENCE

Consultant: Dr. James S. Ansoanuur, Agricultural Economist

Title of the Post: Econometrician and Policy Analyst at ASPAP/DSA

Budget Line: Long Term Technical Assistant (LTTA) at ASPAP/DSA (10.3 p.m. DAI)

Duration: 10.3 months starting from 8 November 1991, (5 days/week)

Expected Dates: 11/8/91 - 9/30/92

Objectives in order of priority (length and percentage of time to be spent in parenthesis).

In collaboration with counterparts at DSA to be designated by the Director of DSA and Coordinator of ASPAP/DSA, execute the following tasks:

1. Develop an agricultural sector model that shows the relationships between area planted, production, rainfall level, technology and other factors of production, and estimate the parameters that show the magnitude of the interrelationships between the different variables in the model and which can be used to make projections of production at different levels of the factors of production (1/92 - 2/92, 20%). 7/92 - 7/92
2. From the Income/expenditure data at DSA, estimate own and cross-price elasticities of demand for various food items consumed by rural households in Rwanda, estimate also household response elasticities with respect to output prices, wage rate, family labor force, number of dependents in the family etc. Estimate supply response with respect to output price, input prices and other factors of production of crops specific to the different agro-climatic regions of the country (1/92 - 2/92, 20%).
3. Analyse the nutritional status of agricultural households with respect to family size, sex, level of education, resource endowment (farm size, livestock herd size), the composition of diets, environmental factors and income and expenditure levels (3/92 - 4/92, 20%).
4. Use the price elasticities of demand and supply and the household response elasticities, the sources of income, expenditure patterns and nutritional status to analyse the impact on agricultural production (food crops, cash crops), consumption (food and nonfood), agricultural income and the

use of farms inputs resulting from changes in output prices, input prices and technological innovation due to measures adopted with the structural adjustment program (devaluation, price liberalisation, import liberalisation, import and export tax adjustments and other specific agricultural policy changes). From the results of the analysis make appropriate policy recommendations (5/92 - 6/92, 20%).

5. Analyse the impact of the exchange rate policy and other accompanying measures (price liberalisation, import and export tax adjustments, import liberalisation, customs tariff reform, money, credit and interest rates adjustment etc.) on noncoffee and tea agricultural exports and imports between Rwanda and its immediate neighbors (Burundi, Zaire, Tanzania, Uganda). (5/92 - 6/92, 20%).
6. Perform analysis to determine the proportion of agricultural income derived from livestock farming and the proportion of the country's food needs that are met from existing livestock population.
7. ^{Conduct a} Perform analysis to determine domestic energy needs from wood sources and other domestic uses of wood and the proportion of these met by existing level of planted forest.
8. Aid in the planning and execution of seminars, as it becomes necessary, to present the analysis results and the results from the work of other analysts at DSA. Give on the job training to counterpart analyst staff in, economic policy analysis techniques.

Reports to be provided:

1. Two semi-annual activities reports (5 - 15 pages each) covering:
 - a. summary of activities performed during the 6 month period
 - b. summary of the problems encountered and recommendations for solving them.
 - c. plan of work for the next 6 month period
2. Reports on policy analysis findings and conclusions.

Termes de Référence

Consultant: Dr. David Tardif-Douglin, Economiste Agricole

Titre du Poste: Spécialiste en Etudes et Analyse des Politiques Agricoles à ASPAP/DSA

Poste Budgétaire: Assistance Technique de Longue Durée (LTTA) à ASPAP/DSA (21 p.m. DAI)

Durée: 21 mois à partir de 15 décembre 1990 approximativement (5 j./sem.)

Dates Prévues: 12/15/90 - 9/14/92 approximativement

Objectifs par ordre de priorité (pourcentage de la charge entre parenthèses):

1. (70%) En collaboration avec les homologues de la DSA, fournir la formation "sur la tâche" dans les techniques suivantes :
 - a. analyse économique des données de la DSA (résultats des études ponctuelles et statistiques récurrentes) et des tiers (PLAN, ONAPO, ISAR, projets, chercheurs collaborateurs, etc) du point de vue de l'impact des politiques agricoles et économiques sur le secteur rural; rédaction des rapports finals et présentation des résultats aux séminaires, suivants les besoins
 - b. conception et exécution des études ponctuelles développées afin de fournir les données et informations nécessaires pour les analyses au point 1.a. ci-dessus. Ceci englobera la supervision et contrôle de tous les étapes des études ponctuelles : conception des hypothèses, planification et budgétisation du travail, étude de reconnaissance, conception et tests du questionnaire, logistique, formation et supervision des enquêteurs, conception des programmes de saisie et instructions de vérification et contrôle des données, nettoyage et dépouillement des données, et analyse. Dans la mesure que les études ponctuelles exigent une connaissance technique approfondie, l'assistance technique de courte durée sera engagée.
 - c. techniques d'utilisation des ordinateurs pour l'analyse économique, gestion des données (data base management), graphiques et publications (y compris "desk top publishing" dans le sens limité à la bonne utilisation de l'imprimante laser pour sortir les résultats en Wordperfect, Harvard Graphics, et Lotus), budgets, et planification/gestion des études (PERT)
2. (10%) En collaboration avec les homologues de la DSA, aider au développement et à l'amélioration du système de publication et ventilation des résultats :
 - a. superviser la rédaction et publication des rapports analytiques en vue d'établir un système standard qui assure un niveau professionnel de qualité
 - b. superviser le système de ventilation des rapports et de l'entretien de la bibliographie
 - c. aider dans la planification et exécution des séminaires
3. (10%) Suivant les besoins, fournir les cours ou séminaires afin d'assurer la formation de courte durée au personnel de la DSA dans les matières telles que :
 - a. économie agricole
 - b. statistique
 - c. techniques d'analyse économique
 - d. utilisation des logiciels
 - e. méthodologies des enquêtes ponctuelles
4. (10%) Prendre en charge des responsabilités administratives, suivant les besoins, telles que :
 - a. rédaction des termes de référence des STTA à utiliser dans les études

- ponctuelles
- b. supervision et appui aux STTA à utiliser dans les études ponctuelles
- c. suivant l'expérience du consultant, partager certaines tâches administratives (actuellement prises en charge par Lassiter) telles que : entretien des ordinateurs et logiciels, supervision des achats et la caisse, comptabilité)

Rapports à Fournir:

1. Quatre rapports semestriels des activités (5 - 15 pages chacun) comportant:
 - a. sommaire des activités effectuées pendant le semestre
 - b. sommaire de problèmes rencontrés et recommandation pour les résoudre
 - c. plan du travail pour le semestre suivant
2. Rapports d'analyse des politiques agricoles (suivant les besoins des études en cours et le plan du travail actuel)

Appendix B: Dates and Purposes of STTA Deliveries

Appendix B: Dates and Purposes of STTA Deliveries

Appendice B. Sommaire de l'Assistance Technique de Courte Durée Fournie par le Contrat ASPAP/DAI

17-Nov-92

Consultant	Dates	Jours	- personnes-mois -			Activité Primaire
			TOTAL	DSA	PLAN	
*** Période Passée (8/87 au présent) ***						
Ignatius Peprah	10/87	30	1.4		1.4	Rédaction de termes de référence de l'étude sur l'autofinancement
Jim Otto	10-12/87	63	2.9	1.0	1.9	Dépouillement (ENBC), commande des ordinateurs, formation (FOCUS
Dan Clay	11/87	22	1.0	1.0		Plan du travail du SESA et planification de formation (TIP)
David Wilcock [1]	11/87	11	0.5	0.2	0.3	Plan du travail du SESA et coordination avec DAI/W
Mike Weber [1]	11/87	6	0.3	0.3		Plan du travail du SESA et planification du séminaire sorgho
Tom Zalla	1-2/88	30	1.4	1.4		Séminaire sur l'harmonisation de collecte des statistiques agric
Catherine Tardif-Douglin	3-4/88	40	1.8	0.9	0.9	Formation en SPSSPC
Barky Diallo	3/88	10	0.5	0.3	0.1	Recensement de besoins en formation/séminaires du U. Pitts
Jim Otto	3/88	4	0.2		0.2	Plan du dépouillement de l'étude UNR sur les coûts de production
Elaine Aderhold	2-6/88	11	0.5	0.5		Etude préliminaire sur la photographie aérienne à basse altitude
Dana Slaymaker	4-5/88	15	0.7	0.7		Etude préliminaire sur la photographie aérienne à basse altitude
Scott Loveridge	3/88	22	1.0	1.0		Séminaire sur la production et commercialisation du sorgho
Dan Clay	3/88	22	1.0	0.6	0.4	Planification: formation, harmonisation, et stratégies non-agric
Tom Zalla	4-5/88	23	1.0	1.0		Harmonisation de collecte des statistiques agricoles
Tony Barclay [1]	5/88	4	0.2	0.1	0.1	Contrôle/évaluation des activités DAI et coordination avec DAI/W
Catherine Tardif-Douglin	4-10/88	147	6.7	6.7		Etude stratégies non-agricoles
Félicien Gatabazi	7-10/88	66	3.0		3.0	Etude sur l'autofinancement des coûts récurrents communaux
Emile Nyungura	7-10/88	66	3.0		3.0	Etude sur l'autofinancement des coûts récurrents communaux
Jim Otto	8-10/88	46	2.1	0.1	2.0	Dépouillement ENBC, UNR/FINCOO coûts de prod., commande d'ordin.
Dan Clay	8/88	22	1.0	1.0		Echantillonnage, harmonisation, étude stratégies non-agricoles
Tom Zalla	8/88	15	0.7	0.7		Méthodologies de collecte des statistiques et harmonisation
Khiem Nguyen	9/88-8/89	253	11.5		11.5	Etude sur l'autofinancement des coûts récurrents communaux
Dan Clay	10/88	22	1.0	0.8	0.2	Formation, méthodologies d'enquêtes, et stratégies non-agricoles
Scott Loveridge	12/88-1/89	52	2.4	2.4		Rédaction et traduction du rapport sur le sorgho/haricot
Nick Minot	1-2/89	36	1.6		1.6	Dépouillement des données ENBC Urbain
Scott Loveridge	3-4/89	32	1.5	1.5		Rédaction et présentation du rapport du séminaire des politiques
Tom Zalla	12/88, 4/89	28	1.3	1.3		Organisation et exécution du séminaire sur les politiques agric.
Dan Clay	4/89	22	1.0	0.8	0.2	Séminaire des politiques, stratégies non-agricoles, et formation
Jim Otto	5/89	23	1.0	0.0	1.0	Dépouillement des données ENBC Urbain
Scott Loveridge	5-7/89	24	1.1	1.1		Questionnaires 89B/90A, contacts Burundi/Zaire, mini-séminaires
David Wilcock [1]	5/89	10	0.5	0.2	0.3	Contrôle/évaluation des activités DAI et coordination avec DAI/W
Tony Barclay [1]	6/89	4	0.2	0.1	0.1	Contrôle/évaluation des activités DAI et coordination avec DAI/W
Nick Minoc	6-7/89	26	1.2		1.2	Dépouillement des données ENBC Urbain
Dan Clay	7/89	22	1.0	1.0		Stratégies non-agricoles et formation
David Wilcock	7-12/89	3	0.1	0.1		Rapport sur les politiques agricoles, coordination avec IBRD.
Scott Loveridge	8-10/89	36	1.6	1.6		Questionnaires 89B/90A, enquête revenus-dépenses
Tom Zalla	9/89	22	1.0	1.0		Harmonisation, prévision des récoltes, évolution de production
Mike Wybo	10/89	30	1.4	1.4		Réorganisation du système informatique, commande d'équipement

Appendix B: Dates and Purposes of STTA Deliveries

Consultant	Dates	Jours	[- personnes-mois -]			Activité Primaire
			TOTAL	DSA	PLAN	
David Wilcock	10/89-4/90	4	0.2	0.2		Rapport et séminaire sur les politiques agricoles
Dan Clay	11/89	22	1.0	1.0		Stratégies non-agricoles, budget MSU, formation LD, et TIP
Tom Zalla	11-12/89	26	1.2	1.2		Enquête fertilisants et pesticides
Randy Schnepf	12/89	5	0.2	0.2		Rédaction d'un document de formation de SPSS
Tom Zalla	3-6/90	26	1.2	1.2		Enquête fertilisants et pesticides
Tony Barclay [1]	3/90	4	0.2	0.1	0.1	Contrôle/évaluation des activités DAI et coordination avec DAI/W
Chris Elias	5-6/89	40	1.8	1.5	0.4	Formation SPSS
Dan Clay	6/90	22	1.0	1.0		Stratégies non-agricoles, budget MSU, formation LD
Jenny Olsen	6-8/90	33	1.5	1.5		Dépouillement de données élevage; étude agro-forestier
Craig Harris	6-8/90	12	0.5	0.5		Etude agro-forestier
Nick Minot	7-8/90	36	1.6		1.6	Dépouillement des données EHBC Urbain
Tom Zalla	7-8/90	24	1.1	1.1		Etude Café
Dan Clay	9-10/90	22	1.0	1.0		Etude agro-forestier
David Tardif-Douglin	12/90-2/91	44	2.0	2.0		Etude Café, Etude Tubercules
Dan Clay	3-4/91	22	1.0	1.0		Etude agro-forestier
Dan Clay	5-6/91	22	1.0	1.0		Etude agro-forestier
Tony Barclay [1]	6/91	6	0.3	0.2	0.1	Contrôle/évaluation des activités DAI et coordination avec DAI/W
Elliot Berg	9/91	8	0.4	0.4		Séminaires sur les politiques agricoles
Dan Clay	10/91	23	1.0	1.0		Etude agro-forestier
Nick Minot	10/91	12	0.5		0.5	Séminaire EHBC
Catherine Tardif-Douglin	12/91-9/92	120	5.5	5.5		Appui aux études nutrition, agroforesterie, et genre
Tony Barclay [1]	1/92	3	0.3	0.3		Contrôle/évaluation des activités DAI et coordination avec DAI/W
David Megill	1/92-2/92	20	0.9	0.9		Construction de l'échantillon de menages agricoles pour les enqu
Dan Clay	1/92-2/92	24	1.1	1.1		Etude agro-foresterie
Scott Loveridge	4/92-5/92	22	1.0	1.0		Nettoyage/Analyse Rapport Revenus et Depenses 1990
Dan Clay	4/92-5/92	23	1.0	1.0		Etude agro-foresterie
Scott Loveridge	6/92-7/92	32	1.5	1.5		Rédaction Rapport Revenus et Depenses 1990
David Megill	6/92	16	0.7	0.7		Echantillonnage, et systeme de ponderation
Jerny Olson	6/92-8/92	42	1.9	1.9		Etude sur la degradation de sol
Dan Clay	9/92	11	0.5	0.5		Analyse etude nutrition/agroforesterie
Sous-Total:			90.8	59.6	31.2	
Total Déjà Engagé:			90.8	59.6	31.2	
Prévision du Contrat DAI:			93.0	69.0	24.0	
% Déjà Engagé:			98%	86%	130%	
Prévision Révisée [2]:			93.0	61.8	31.2	
% Déjà Engagé:			98%	96%	100%	
Restant à Engager:			2.2	2.2	0.0	
% restant à Engagé:			2%	4%	0%	

Notes:

[1] Rubrique budgétaire "Appui Administratif" au lieu d'Assistance Technique, donc, les personnes-mois sont exclus des totaux.

[2] Prévision de STTA révisée à cause de l'utilisation sur budget de EINECO avec réductions aux DSA et PLAN proportionnelles aux prévisions de base et la révision du contrat ASPAP/DAI du 28-6-91.

Appendice B. Sommaire de l'Assistance Technique de Courte Durée Fournie par le Contrat ASPAP/DAI

17-Nov-92

Appendix B: Dates and Purposes of STTA Deliveries

Consultant	Dates	Jours	[- personnes-mois -]			Activité Primaire
			TOTAL	DSA	PLAW	

Sommaire:						
Total Année 1			26.0	15.1	10.9	
DAI Année 1			23.0	13.1	10.9	
MSU Année 1			3.0	2.0	0.0	
Total Année 2			28.3	10.6	17.8	
DAI Année 2			16.6	2.0	14.5	
MSU Année 2			11.7	8.5	3.2	
Total Année 3			15.5	13.5	2.0	
DAI Année 3			8.2	7.8	0.4	
MSU Année 3			7.3	5.7	1.6	
Total Année 4			8.0	7.4	0.5	
DAI Année 4			5.0	4.4	0.5	
MSU Année 4			3.0	3.0	0.0	
Total Année 5			13.1	12.6	0.0	
DAI Année 5			8.5	8.5	0.0	
MSU Année 5			4.5	4.0	0.0	
Total			90.8	46.5	31.2	
DAI			61.2	27.3	26.4	
MSU			29.6	19.2	4.9	
Prévision des sous-contrats (révisé le 28-6-91):						
Total			93.0			
DAI			66.9			
MSU			26.1			
X Déjà Engagé:						
Total			98X			
DAI			91X			
MSU			113X			
Restant à Engager:						
Total			2.2			
DAI			5.7			
MSU			-3.5			

Appendix C: ASPAP/DAI Bibliography and DSA "listed publications"

BIBLIOGRAPHIE DES RAPPORTS ASPAP/DAI

Development Alternatives Inc., Contractant
Projet des Enquêtes Agricoles et Analyse des Politiques
Economiques du Secteur Rural
(Agricultural Surveys and Policy Analysis - ASPAP)
(USAID Contract No. 696-0126)

1. Wilcock, David. "Report on September ASPAP Project Startup and Planning Meeting", Development Alternatives, Inc., Washington, D. C., November 1987.
2. Peprah, Ignatius. "Termes de Référence pour une Etude sur les Charges Récurrentes et l'Autofinancement des Infrastructures Publiques et des Services Sociaux en Milieu Rural au Rwanda", Development Alternatives, Inc., Washington, D.C., novembre 1987.
3. Clay, Dan. "Rwanda Agriculture Surveys and Policy Analysis Project: Four-year Training Implementation Plan," Michigan State University, East Lansing, Michigan, November 1987.
4. _____. "Trip Report: October 31 - November 1987," Michigan State University, East Lansing, Michigan, November 1987.
5. Otto, Jim. "Rapport de Mission: 20 Octobre - 15 Décembre 1987," Development Alternatives, Inc., Washington, D. C., décembre 1987.
6. Weber, Mike. "Trip Report: Kigali, Rwanda, November 10 - 16, 1987," Michigan State University, East Lansing, Michigan, November 1987.
7. Wilcock, David. "Report on the Startup of the Rwanda Ag Survey and Policy Analysis Project (ASPAP)," Development Alternatives, Inc., Washington, D. C., December 1987.
8. Otto, Jim. "Enquête Nationale Budget/Consommation en Milieu Rural, Description des Données du Questionnaire Patrimoine (Q6)", Development Alternatives, Inc., Washington, D.C., janvier 1988.
9. _____. "Enquête Nationale Budget/Consommation en Milieu Rural, Description des Données des Questionnaires Budget et Consommation Alimentaire", Development Alternatives, Inc., Washington, D.C., janvier 1988.
10. Clay, Daniel. "ASPAP, Plan de Quatre Ans pour la Réalisation de la Formation", Michigan State University, East Lansing, Michigan, novembre 1987.
11. Wilcock, David C. "Rapport sur le Lancement du Projet Enquêtes Agricoles et Analyse des Politiques Economiques du Secteur Rural", Development Alternatives, Inc., Washington, D.C., décembre 1987.
13. Mudacumura, Gédéon; Tom Zalla; et Hyacinthe Fabiola. "Option Détaillée pour l'Harmonisation de la Collecte des Statistiques Agricoles au Rwanda: Document de Travail", SESA, MINAGRI, Kigali, Rwanda, février 1988.
14. Zalla, Tom. "Summary of Activities Relating to Harmonisation of the Agricultural Production Statistics and Prices in Rwanda," Development Alternatives, Inc., Washington, D. C., February 1988.
15. _____. "Résumé des Activités en Vue d'Harmoniser la Collecte des Statistiques sur la Production et les Prix Agricoles au Rwanda", Development Alternatives, Inc., Washington, D.C., février 1988.
16. Diallo, A. Samba. "Rapport de Mission du 13 - 23 mars 1988", Development Alternatives, Inc., Washington, D.C, mars 1988.
17. Tardif-Douglin, Catherine. "Formation Introductive en SPSS/PC+", Development Alternatives, Inc., Kigali, Rwanda, mars 1988.
18. Otto, Jim. "Proposition pour le Traitement Informatique de L'Enquête sur les

- Coûts de Production," Development Alternatives, Inc., Washington, D.C., mars 1988.
19. SESA (MINAGRI). "Résultats d'une Enquête sur le Niveau de Commercialisation du Sorgho à l'Echelon du Producteur", Kigali, Rwanda, avril 1988.
 20. Loveridge, Scott. "Trip Report: March 24 to April 11, 1988", Michigan State University, East Lansing, Michigan, April 1988.
 21. Tardif-Douglin, Catherine. "La Formation en SPSS/PC+ du Personnel du SESA, MINIPLAN et MINIFINECO du 29 Février au 22 Avril 1988", Development Alternatives, Inc., Kigali, Rwanda, avril 1988.
 22. Clay, Daniel C. "Trip report - Kigali, March, 21 to April 15, 1988", Michigan State University, East Lansing, Michigan, April 1988.
 23. _____. "Rapport de Mission - Kigali, 21 mars au 15 avril 1988", Michigan State University, East Lansing, Michigan, avril 1988.
 24. Mudacumura, Gédéon; Tom Zalla; Hyacinthe Fabiola, et Cadres du SESA. "Programme Détaillé pour l'Harmonisation de la Collecte des Statistiques Agricoles au Rwanda", SESA/MINAGRI, Kigali, Rwanda, mai 1988.
 25. Zalla, Tom. "Trip Report, Rwanda ASPAP, April 25-May 18", Development Alternatives, Inc., Washington, D.C, May 1988.
 26. _____. "Rapport de Mission, Rwanda ASPAP, 25 Avril-18 Mai 1988", Development Alternatives, Inc., Washington, D.C, mai 1988.
 27. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No.1: August 1, 1987 to January 31, 1988", Development Alternatives, Inc., Kigali, Rwanda, April 1988.
 28. _____. "ASPAP/DAI Rapport Semestriel No. 1 : du 1 Août 1987 au 31 janvier 1988", Development Alternatives, Inc., Kigali, Rwanda, avril 1988.
 29. Barclay, Tony. "Rwanda Trip Report, June 20-24, 1988: Management Visit", Development Alternatives, Inc., Washington, D.C, June 1988.
 30. Slaymaker, Dana M. "Aerial Point Sampling for Agricultural and Land Use Assessment by Rwanda ASPAP", Exploration Photography, Tucson, Arizona, May 1988.
 31. _____. "Photographie Aérienne par Echantillonnage pour l'Evaluation de l'Agriculture et l'Utilisation des Terres par ASPAP au Rwanda", Exploration Photography, Tucson, Arizona, mai 1988.
 32. Clay, C. Dan. "Trip Report, Kigali, Rwanda. August 1 - 26, 1988", Michigan State University, East Lansing, Michigan, August, 1988.
 33. _____. "Rapport de Mission, Kigali, Rwanda, 1 - 26 Août 1988", Michigan State University, East Lansing, Michigan, août 1988.
 34. Zalla, Tom. "Trip Report, ASPAP Project, Kigali, August 13-28, 1988", Development Alternatives, Inc., Washington, D.C., August 1988.
 35. _____. "Rapport de Mission à Kigali Pour le Projet ASPAP: 13-28 Août 1988", Development Alternatives, Inc., Washington, D.C., août 1988.
 36. Barclay, Tony. "Rapport de Mission au Rwanda, 20-24 juin 1988 : Visite de la Direction à ASPAP", Development Alternatives, Inc., Washington, D.C., septembre 1988.
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37. Clay, D.; Hyacinthe Fabiola; Jean Kayitsinga; Gregory Lassiter; Octavien Ngarambe; J. M. V. Sehene; et Tom Zalla. "Proposition sur les Activités de Collecte des Statistiques Agricoles pendant la Première Saison 1989", SESA, MINAGRI, Kigali, Rwanda, septembre 1988.
38. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No. 2: February 1 to July 31, 1988", Development Alternatives, Inc., Kigali, Rwanda, octobre 1988.
39. _____. "ASPAP/DAI Rapport Semestriel No. 2 : du 1er février au 31 juillet 1988", Development Alternatives, Inc., Kigali, Rwanda, octobre 1988.
40. Clay, Daniel. "Rapport de Mission. Kigali, Rwanda, du 15 Octobre au 8 Novembre 1988", Michigan State University, East Lansing, Michigan, novembre 1988.
41. _____. "Trip Report: October 15 - November 8, 1988", Michigan State University, East Lansing, Michigan, November 1988.
42. Otto, James. "Rapport sur une mission au Rwanda, du 30 août au 25 octobre 1988", Development Alternatives, Inc., Washington, D. C., octobre 1988.
43. Loveridge, Scott. "ASPAP/SESA Trip Report: Dec. 1988 to Jan. 13 1989 (US) Jan. 16 to Feb 4 (Rwanda)", Michigan State University, East Lansing, Michigan, February, 1989.
44. _____. "Rapport de Mission ASPAP/SESA : du 1er décembre 1988 au 13 janvier 1989 (USA) du 16 janvier au 4 février 1989 (Rwanda)", Michigan State University, East Lansing, Michigan, février, 1989.
45. Minot, Nick. "ASPAP/Miniplan Trip Report: 9 January to 20 February 1989", Michigan State University, East Lansing, Michigan, February 1989.
46. _____. "Rapport de Mission ASPAP/Miniplan : 9 janvier au 20 février 1989", Michigan State University, East Lansing, Michigan, février 1989.
47. Tardif-Douglin, Catherine. "ASPAP/SESA Trip Report: April 13 to November 6, 1988", Development Alternatives, Inc., Kigali, Rwanda, February 1989.
48. _____. "Rapport de Mission ASPAP/SESA : du 13 avril au 6 novembre 1988", Development Alternatives, Inc., Kigali, Rwanda, février 1989.
49. Clay, Daniel C. "ASPAP/SESA Trip Report, Kigali, Rwanda. April 3 - 29, 1989", Michigan State University, East Lansing, Michigan, April 1989.
50. _____. "Rapport de Mission ASPAP/SESA, Kigali, Rwanda, 3 - 29 avril 1989", Michigan State University, East Lansing, Michigan, août 1989.
51. Zalla, Tom. "ASPAP/DSA Trip Report, Kigali, March 31 to April 26, 1989", Development Alternatives, Inc., Washington D.C., April 1989.
52. _____. "Rapport de Mission ASPAP/DSA, Kigali, du 31 mars au 26 avril 1989", Development Alternatives, Inc., Washington D.C., août 1988.
53. Loveridge, Scott. "ASPAP/SESA Trip Report: Mar. 13-17, 1989 (US), April 1-29 (Rwanda)", Michigan State University, East Lansing, Michigan, February, 1989.
54. _____. "Rapport de Mission ASPAP/SESA : du 13 au 17 mars 1989 (USA) et du 1er au 29 avril 1989 (Rwanda)", Michigan State University, East

Lansing, Michigan, avril, 1989.

55. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No. 3: August 1 to January 31, 1989", Development Alternatives, Inc., Kigali, Rwanda, April 1989.
56. _____. "ASPAP/DAI Rapport Semestriel No. 3 : du 1er août 1988 au 31 janvier 1989", Development Alternatives, Inc., Kigali, Rwanda, avril 1989.
57. Loveridge, Scott. "Relations Entre le Comportement des Ménages dans le Secteur Rural et les Objectifs Nationaux à travers les Cultures Suivantes : le Haricot, le Sorgho, la Patate Douce et le Café", SESA, MINAGRI, Kigali, Rwanda, avril 1989.
58. Clay, Daniel C.; Jean Kayitsinga; Théobald Kampayana; Innocent Ngenzi; et Jennifer Olson. "Stratégies Non-Agricoles au Rwanda : Rapport Préliminaire", SESA, MINAGRI, Kigali, Rwanda, avril 1989.
59. Ngarambe Octavien, Gregory Lassiter, Scott Loveridge. "Tendances de la Production Agricole et Son Impact sur la Sécurité Alimentaire", SESA, MINAGRI, Kigali, Rwanda, avril 1989.
60. Rwamasirabo, Serge et Tom Zalla. "Récapitulation des Résultats des Différentes Présentations", SESA, MINAGRI, Kigali, Rwanda, avril 1989.
61. _____. "Journées de Reflexion sur les Contraintes de l'Agriculture Rwandaise et leurs Implications dans la Formulation des Politiques Agricoles : Une Synthèse des Conclusions", SESA, MINAGRI, Kigali, Rwanda avril 1989.
62. _____; Hyacinthe Fabiola; et Aloys Munyangaju. "Quelques Caractéristiques des Ménages Agriculteurs-Eleveurs", SESA, MINAGRI, Kigali, Rwanda, avril 1989.
63. Loveridge, Scott. "Importance du Haricot et du Sorgho dans le Système de Production des Cultures Vivrières au Rwanda : Disponibilités Actuelles et Projections pour l'Avenir", SESA, MINAGRI, Kigali, Rwanda, février 1989.
64. Wilcock, David. "ASPAP Trip Report: May 11 - 19, 1989", Development Alternatives, Inc., Washington, D. C., May 1989.
65. _____. "Rapport de Mission ASPAP : 11 au 19 mai, 1989", Development Alternatives, Inc., Washington, D.C., mai 1989.
66. Fabiola, Hyacinthe; Jean Kayitsinga; Gregory Lassiter; Octavien Ngarambe; et Jean-Léonard Ngirumwami. "Questionnaires Utilisés dans l'Enquête Nationale Agricole : Saison A 1989, 1 novembre 1988 au 28 février 1989", DSA, MINAGRI, Kigali, Rwanda, mai 1989.
67. _____; Jean Kayitsinga; Gregory Lassiter; Octavien Ngarambe; et Jean-Léonard Ngirumwami. "Questionnaires Utilisés dans l'Enquête Nationale Agricole : Saison B 1989, 1 mars 1989 au 31 octobre 1989", DSA, MINAGRI, Kigali, Rwanda, mai 1989.
68. Otto, Jim. "Enquête Nationale Budget Consommation, Milieu Urbain : Manuel de Traitement Informatique, Données du Questionnaire Consommation Alimentaire", Development Alternatives, Inc., Washington, D.C., mai 1989.
69. Loveridge, Scott. "Rapport de Mission ASPAP/DSA: du 29 mai au 24 juin 1989", Michigan State University, East Lansing, Michigan, juin 1989.
70. Zalla, Tom. "Proposition sur La Collecte des Statistiques Agricoles en

45

Utilisant les Monagris dans les Zones des Projets", Development Alternatives, Inc., Washington D.C., avril 1989.

71. Minot, Nick. "ASPAP/Miniplan Rapport de Mission: 20 Juin à 14 Juillet 1989", Michigan State University, East Lansing, Michigan", juillet 1989.
72. Clay, Daniel C. "ASPAP/SESA Trip Report: Kigali, July 3-29, 1989", Michigan State University, East Lansing, Michigan, April 1989.
73. _____. "Rapport de Mission ASPAP/SESA: du 3 au 28 juillet, 1989", Michigan State University, East Lansing, Michigan, juillet 1989.
74. _____ et Jean Kayitsinga. "L'Emploi en Dehors du Ménage au Rwanda", DSA, MINAGRI, Kigali, Rwanda, Juillet 1989.
75. _____; Jean Kayitsinga; et Jim McAllister. "Cycle de Développement Familial, Classe Sociale et Répartition des Revenus en Milieu Rural au Rwanda", SESA, MINAGRI, Kigali, Rwanda, juillet 1989.
76. Minot, Nick. "ASPAP/MINIPLAN Trip Report", Michigan State University, East Lansing, Michigan, 20 June to 15 July 1989, July 1989.
77. ASPAP/MINIPLAN. "Etude des Charges Récurrentes et de la Capacité d'Auto-Financement des Infrastructures Publiques en Milieu Rural" : Rapport du Consultant Ingénieur Civil", Kigali, Rwanda, avril 1989.
78. _____. "Etude des Charges Récurrentes et de la Capacité d'Auto-Financement des Infrastructures Publiques en Milieu Rural - Rapport Provisoire : Dossier Routes rurales", Kigali, Rwanda, avril 1989.
79. _____. "Etude des Charges Récurrentes et de la Capacité d'Auto-Financement des Infrastructures Publiques en Milieu Rural : Dossier Introductif et Synthèse ", Kigali, Rwanda, avril 1989.
80. _____. "Etude des Charges Récurrentes et de la Capacité d'Auto-Financement des Infrastructures Publiques en Milieu Rural - Rapport Provisoire : Dossier Ecoles", Kigali, Rwanda, avril 1989.
81. _____. "Etude des Charges Récurrentes et de la Capacité d'Auto-Financement des Infrastructures Publiques en Milieu Rural - Rapport Provisoire : Formations Médicales", Kigali, Rwanda, avril 1989.
82. _____. "Etude des Charges Récurrentes et de la Capacité d'Auto-Financement des Infrastructures Publiques en Milieu Rural - Rapport Provisoire : Adductions d'eau", Kigali, Rwanda, avril 1989.
83. _____. "Rapport du Séminaire National sur la Problématique des Charges Récurrentes et la Capacité d'Autofinancement des Infrastructures Publiques en Milieu Rural tenu à Kibusunzu Centre IWACU, du 07 au 10 août 1989", Kigali, Rwanda, août 1989.
84. _____. "Etude des Charges Récurrentes et de la Capacité d'Auto-Financement des Infrastructures Publiques en Milieu Rural : Rapport du Consultant Informaticien", Kigali, Rwanda, avril 1989.
85. Kayitsinga, Jean ; Gregory Lassiter ; Scott Loveridge ; et Jean-Léonard Ngirumwami. "Questionnaires Utilisés dans l'Enquête Nationale Agricole : Saison A 1990, 1 Novembre 1989 au 28 Février 1990", DSA, MINAGRI, Kigali, Rwanda, septembre 1989.
86. Zalla, Tom. "Rapport de Mission ASPAP/DSA, du 6 au 30 Septembre 1989",

Development Alternatives, Inc., Washington D.C., septembre 1989.

87. _____ et Serge Rwamasirabo. "Proposition sur la Collecte des Statistiques Agricoles en Utilisant les Monagris dans les Zones des Projets : Sommaire d'une Approche sur DSA", Development Alternatives, Inc., Washington D.C., septembre 1989.
88. Loveridge, Scott. "Rapport de Mission ASPAP/DSA, du 26 août au 6 Octobre 1989", Michigan State University, East Lansing, Michigan, octobre 1989.
89. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No. 4: February 1, 1989 to July 31, 1989", Development Alternatives, Inc., Kigali, Rwanda, October 1989.
90. _____. "ASPAP/DAI Rapport Semestriel No. 4 : du 1 Février 1989 au 31 Juillet 1989", Development Alternatives, Inc., Kigali, Rwanda, octobre 1989.
91. Barclay, Tony. "ASPAP/DSA, Management Trip Report, June 6-9, 1989", Development Alternatives, Inc., Washington, D.C., June 1989.
92. _____. "Rapport de la Visite de Direction au Projet ASPAP/DSA, du 6 au 9 Juin 1989", Development Alternatives, Inc., Washington D.C., juin 1989.
93. Nguyen Huu, Khiêm, "Rapport d'Activité Final de Participation au Projet ASPAP : Etude sur les Charges Récurrentes des Infrastructures Publiques en Milieu Rural et leur Capacité d'Auto-financement", Development Alternatives, Inc., Kigali, Rwanda, août 1989.
94. Wybo, Mike. "Rapport de Mission ASPAP/DSA: du 29 Septembre au 28 Octobre 1989", Michigan State University, East Lansing, Michigan, octobre 1989.
95. Lassiter, Gregory C. "Document de Travail : Proposition de la Structure des Fichiers de l'Enquête Revenu-Dépenses (RD)", DSA, MINAGRI, Kigali, Rwanda, octobre 1989.
96. Clay, Daniel C. "1990 Training Implementation Plan", Michigan State University, East Lansing, Michigan, October 1989.
97. _____. "Plan d'Exécution de la Formation pour 1990", Michigan State University, East Lansing, Michigan, October 1989.
98. _____. "ASPAP/DSA Trip Report: Kigali, November 1989", Michigan State University, East Lansing, Michigan, November 1989.
99. _____. "Rapport de Mission ASPAP/DSA : Novembre 1989", Michigan State University, East Lansing, Michigan, novembre 1989.
100. Schnepf, Dr. Randall D. "Manuel de Référence SPSS-PC Version 3.0", Development Alternatives, Inc., Kigali, Rwanda, décembre 1989.
101. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No. 5: August 1, 1989 to January 31, 1990", Development Alternatives, Inc., Kigali, Rwanda, February 1990.
102. _____. "ASPAP/DAI Rapport Semestriel No. 5 : du 1er août 1989 au 31 janvier 1990", Development Alternatives, Inc., Kigali, Rwanda, février 1989.
103. Mudacumura, Cédéon; Jean Kayitsinga; Gregory Lassiter; et Jean-Léonard Ngirumwami. "Questionnaires Utilisés dans l'Enquête Nationale Agricole : Saison B 1990, 1 Mars 1990 au 30 Septembre 1990", DSA, MINAGRI, Kigali, Rwanda, mars 1990.

47

104. Ansoanuur, James S. "Semi-Annual Activities Report of ASPAP/PLAN Economist: 1 August 1989 to 31 January 1990", Development Alternatives, Inc., Kigali, Rwanda, March 1990.
105. _____. "Rapport Semestriel d'Activités de l'Economiste ASPAP/MINIPLAN: 1er Août 1989 au 31 Janvier 1990", Development Alternatives, Inc., Kigali, Rwanda, mars 1990.
106. Barclay, Tony. "Trip Report: March 14 - 17, 1990", Development Alternatives Inc., Washington, D.C., March 1990.
107. _____. "Rapport de Mission : 14 - 17 mars 1990", Development Alternatives, Inc., Washington, D.C., mars 1990.
108. Lassiter, Gregory C. "Calcul des Superficies sur la Calculatrice Programmable Tandy PC-6 : Instructions d'Utilisation et Listing du Programme en BASIC", DSA, MINAGRI, Kigali, Rwanda, mai 1990.
109. Ansoanuur, Jim; et Japhet Ngendahayo. "An Analytical Framework for Assessing the Effects of Agricultural Policy in Rwanda", ASPAP/MINIPLAN, Kigali, Rwanda, June 1990.
110. _____. "Cadre Analytique pour l'Evaluation des Effets de la Politique Agricole au Rwanda", ASPAP/MINIPLAN, Kigali, Rwanda, juin 1990.
111. Elias, Chris. "ASPAP/DSA Trip Report: May 18 to June 24, 1990", Rwanda, ASPAP/DSA, Development Alternatives, Inc., Washington, D.C., June 1990.
112. _____. "Rapport de Mission ASPAP/DSA : Du 18 mai au 24 juin 1990", Development Alternatives, Inc., Washington, D.C., juin 1990.
113. Clay, Daniel C. "ASPAP/SESA Trip Report: June 13 - July 5, 1990", Michigan State University, East Lansing, Michigan, July 1990.
114. _____. "Rapport de Mission ASPAP/SESA: du 13 juin au 5 juillet 1990, Michigan State University, East Lansing, Michigan, juillet 1990.
115. _____ et Innocent Ngenzi. "Migration Temporaire dans les Ménages Agricoles au Rwanda", DSA, MINAGRI, Kigali, Rwanda, juillet 1989.
116. Harris, Craig K. "ASPAP/SESA Trip Report: June 23 - July 8, 1990", Michigan State University, East Lansing, Michigan, July 1990.
117. _____. "Rapport de Mission: du 23 juin au 8 juillet 1990", Michigan State University, East Lansing, Michigan, juillet 1990.
118. _____; Daniel C. Clay; et Jennifer M. Olson: "Agroforestry and Wood Use in Rural Rwanda: Study objectives and Preliminary Design", Michigan State University, East Lansing, Michigan, July 1990.
119. _____. "L'Agroforesterie et l'Utilisation du Bois dans le Milieu Rural Rwandais : Objectifs de l'Etude et Projet Préliminaire," Michigan State University, East Lansing, Michigan, juillet 1990.
120. Zalla, Tom. "Rapport de Mission ASPAP/DSA: Du 4 au 19 juin 1990", Development Alternatives, Inc., Washington D.C., juin 1990.
121. Olson, Jennifer. "ASPAP/DSA Trip Report: June 16 - August 1, 1990", Michigan State University, East Lansing, Michigan, July 1990.
122. _____. "Rapport de Mission ASPAP/DSA : du 16 juin au 1 août 1990". Michigan State University, East Lansing, Michigan, août 1990.

123. _____; Daniel C. Clay; et Jean Kayitsinga. "Migration Permanente de la Population Agricole au Rwanda". , DSA, MINAGRI, Kigali, Rwanda, juillet 1990.
124. Ansoanuur, James S. "Semi-Annual Activities Report of ASPAP/PLAN Economist: 1 February to 31 July 1990", Development Alternatives, Inc., Kigali, Rwanda, August 1990.
125. _____. "Rapport Semestriel d'Activités de l'Economiste ASPAP/MINI- PLAN: 1 Février au 31 Juillet 1990", Development Alternatives, Inc., Kigali, Rwanda, août 1990.
126. Bucyedusenge, Germaine; Hyacinthe Fabiola; Anita Regmi; et Laurence Uwamariya. "Le Rôle de la Femme dans l'Agriculture Rwandaise", DSA, MINAGRI, Kigali, Rwanda, juillet 1990.
127. Uwamariya, Laurence; Hyacinthe Fabiola; et Tom Zalla. "Etude sur les Engrais Minéraux et des Pesticides au Rwanda", DSA, MINAGRI, Kigali, Rwanda, juillet 1990.
128. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No. 6: February 1, 1990 to July 31, 1990", Development Alternatives, Inc., Kigali, Rwanda, August 1990.
129. _____. "ASPAP/DAI Rapport Semestriel No. 6 : du 1 Février 1990 au 31 Juillet 1990", Development Alternatives, Inc., Kigali, Rwanda, août 1990.
130. Uwamariya, Laurence; Hyacinthe Fabiola; Emmanuel Shingiro; et Tom Zalla. "Résultats d'une Enquête sur l'Expérience des Engrais Minéraux et des Pesticides en Milieu Rural au Rwanda", DSA, MINAGRI, Kigali, Rwanda, juillet 1990.
131. Minot, Nick. "Rapport de Mission ASPAP/Miniplan du 12 Juillet au 27 Août 1990", Michigan State University, East Lansing, Michigan", août 1990.
132. Zalla, Tom. "ASPAP/DSA Trip Report: July 25 to September 2, 1990", Development Alternatives, Inc., Washington D.C., September 1990.
133. _____. "Rapport de Mission ASPAP/DSA: Du 25 juillet au 2 septembre 1990", Development Alternatives, Inc., Washington D.C., september 1990.
134. Lassiter, Gregory C. "Documentation des Fichiers et Programmes SPSS : Production des Cultures en Saisons 1989A et 1989B," Division des Statistiques Agricoles, MINAGRI, Kigali, Rwanda, juin 1990 [257 pages, disponibles sur 2 diskettes 5¼" DDHD 1.2M sur demande au MINAGRI/DSA].
135. _____. "Documentation des Fichiers et Programmes SPSS : Densités, Superficies, Rendements, et Associations des Cultures en Saisons 1989A et 1989B," Division des Statistiques Agricoles, MINAGRI, Kigali, Rwanda, juin 1990 [390 pages, disponibles sur 2 diskettes 5¼" DDHD 1.2M sur demande au MINAGRI/DSA].
136. Clay, Daniel C. "ASPAP/DSA Trip Report: September 22 - October 7, 1991", Michigan State University, East Lansing, Michigan, October 1991.
137. _____. "Rapport de Mission ASPAP/DSA: du 22 Septembre au 7 Octobre 1991, Michigan State University, East Lansing, Michigan, octobre 1991.
138. Tardif-Douglin, David. "Rapport de Mission ASPAP/DSA: du 11 Janvier au 12 Février 1991", Development Alternatives, Inc., Bethesda, MD, USA, février 1991.

139. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No. 7: August 1, 1990 to January 31, 1991", Development Alternatives, Inc., Kigali, Rwanda, February 1991.
140. _____. "ASPAP/DAI Rapport Semestriel No. 7 : du 1er Août 1990 au 31 Janvier 1991", Development Alternatives, Inc., Kigali, Rwanda, février 1991.
141. Ansoanuur, James S. "Semi-Annual Activities Report of ASPAP/PLAN Economist: August 1, 1990 to January 31, 1991", Development Alternatives, Inc., Kigali, Rwanda, February 1991.
142. _____. "Rapport Semestriel d'Activités de l'Economiste ASPAP/MINI- PLAN: du 1er Août 1990 au 31 Janvier 1991", Development Alternatives, Inc., Kigali, Rwanda, février 1991.
143. Clay, Daniel C. "ASPAP/DSA Trip Report: March 10 - April 5, 1991", Michigan State University, East Lansing, Michigan, April 1991.
144. _____. "Rapport de Mission ASPAP/DSA: du 10 Mars au 5 Avril 1991, Michigan State University, East Lansing, Michigan, avril 1991.
145. _____. "1991 Training Implementation Plan", Michigan State University, East Lansing, Michigan, October 1990.
146. _____. "Plan d'Exécution de la Formation pour 1991", Michigan State University, East Lansing, Michigan, Octobre 1990.
147. MINIPLAN. "Enquête Nationale Sur le Budget et la Consommation des Ménages : Mileau Urbain (Oct. 1984 - Jan. 1986), Volume U3 : Consommation et Sources des Revenues des Ménages Urbains", Ministère du Plan, Kigali, Rwanda, août 1990 [Disponible au MINIPLAN, B.P. 46, Kigali, Rwanda].
148. Mukamusoni, Agnès; Jeanne-Marie Kajangana, Népomuscène Ndayambaje, Pierre Muhingabire, Vivens Nzabikirambo, Japhet Ngendahayo, et James Ansoanuur. "Evaluation Qualitative des Données en Rapport avec le Secteur Rural du Rwanda", Ministère du Plan, Kigali, Rwanda, mars 1991 [Disponible au MINIPLAN, B.P. 46, Kigali, Rwanda].
149. Lassiter, Gregory C. "Documentation des Fichiers et Programmes SPSS : Production des Cultures en Saisons 1988A et 1988B," Division des Statistiques Agricoles, MINAGRI, Kigali, Rwanda, mai 1991 [Document de 83 pages, disponibles sur 1 diskettes 3½" DSDD 720K sur demande au MINAGRI/DSA, B.P. 621, Kigali, Rwanda].
150. Rwamasirabo, Serge; Dan C. Clay; and Michael T. Weber. "Goat Production in Rwanda 1953-1984: Assessing the Potential for Future Development", Division des Statistiques Agricoles, MINAGRI, Kigali, Rwanda, June 1991, October 1991.
151. _____. "Production Caprine au Rwanda 1953-1984: Détermination du Potentiel pour un Développement Futur", Division des Statistiques Agricoles, MINAGRI, Kigali, Rwanda, juin 1991, october 1991.
152. Clay, Daniel C. "ASPAP/DSA Trip Report: May 28 - June 21, 1991", Michigan State University, East Lansing, Michigan, June 1991.
153. _____. "Rapport de Mission ASPAP/DSA: du 28 Mai au 21 Juin 1991", Michigan State University, East Lansing, Michigan, juin 1991.
154. _____ et Larry Lewis. "Le Couvert Végétal, la Pente du Champ et la Conservation des Terres", Division des Statistiques Agricoles, MINAGRI, Kigali, Rwanda, juin 1991.

155. Tardif-Douglin, David G. "The Role of Sweet Potato in Rwanda's Food System: The Transition from Subsistence Orientation to Market Orientation", Development Alternatives, Inc., Kigali, Rwanda, April 1991.
156. _____. "Le Rôle de la Patate Douce dans le Système Alimentaire du Rwanda : La Transition de l'Agriculture de Subsistance à l'Agriculture à des Fins Commerciales", Development Alternatives, Inc., Kigali, Rwanda, avril 1991.
157. Ansoanuur, James S. "Semi-Annual Activities Report of ASPAP/PLAN Economist: 1 February 1991 to 31 July 1991", Development Alternatives, Inc., Kigali, Rwanda, September 1991.
158. _____. "Rapport Semestriel d'Activités de l'Economiste ASPAP/MINI- PLAN: du 1er Février 1991 au 31 Juillet 1991", Development Alternatives, Inc., Kigali, Rwanda, septembre 1991.
159. _____. "Supply and Demand Elasticities of Principal Agricultural Commodities in Rwanda", Development Alternatives, Inc., Kigali, Rwanda, September 1991.
160. _____. "Elasticités de l'Offre et de la Demande des Produits Agricoles Principaux au Rwanda", Development Alternatives, Inc., Kigali, Rwanda, septembre 1991.
161. Tardif-Douglin, David. "Semi-Annual Activities Report of ASPAP/DSA Policy Analyst/Special Studies Coordinator: 1 February 1991 to 31 July 1991", Development Alternatives, Inc., Kigali, Rwanda, September 1991.
162. _____. "Rapport Semestriel d'Activites de l'Analyste des Politiques Economiques/Coordinateur des Etudes Ponctuelles de l'ASPAP/DSA: du 1er Fe/vrier 1991 au 31 Juillet 1991", Development Alternatives, Inc., Kigali, Rwanda, septembre 1991.
163. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No. 8: February 1, 1991 to July 31, 1991", Development Alternatives, Inc., Kigali, Rwanda, September 1991.
164. _____. "ASPAP/DAI Rapport Semestriel No. 8 : du 1 Février 1991 au 31 Juillet 1991", Development Alternatives, Inc., Kigali, Rwanda, septembre 1991.
165. Berg, Elliot. "ASPAP/DSA Trip Report: Septebmer 14 - 20, 1991", Development Alternatives, Inc., Bethesda, MD, USA, September 1991.
166. _____. "Rapport de Mission ASPAP/DSA: du 14 au 20 Septembre 1991", Development Alternatives, Inc., Bethesda, MD, USA, septembre 1991.
167. Lassiter, Gregory C., and Carolyn K. Lassiter. "ASPAP/DAI Field Accounting Procedures", Development Alternatives, inc., Kigali, Rwanda, September 1991 [Revised November 17, 1991; for internal DAI use only].
168. Lassiter, Gregory C. "ASPAP/DAI Budget Projections: August 1, 1987 - September 30, 1992", Development Alternatives, Inc., Kigali, Rwanda, April 1991 [for internal DAI use only].
169. Minot, Nick. "La Consommation et Sources de Revenu des Ménages en Milieu Rural", Michigan State University, East Lansing, Michigan", octobre 1991.
170. _____. "La Comparisaison de la Consommation et des Sources de Revenu des

.91

Ménages en Milieu Rural et en Milieu Urbain", Michigan State University, East Lansing, Michigan", octobre 1991.

171. Ansoanuur, James S. "La Consommation et Sources des Revenus des Ménages Urbains du Rwanda", Development Alternatives, Inc., Kigali, Rwanda, octobre 1991.
172. Clay, Daniel C. "ASPAP/DSA Trip Report: October 1 - 26, 1991", Michigan State University, East Lansing, Michigan, October 1991.
173. _____. "Rapport de Mission ASPAP/DSA: du 1 au 26 Octobre 1991, Michigan State University, East Lansing, Michigan, octobre 1991.
174. _____. "1992 Training Implementation Plan", Michigan State University, East Lansing, Michigan, October 1991.
175. _____. "Plan d'Exécution de la Formation pour 1992", Michigan State University, East Lansing, Michigan, Octobre 1991.
176. Division des Statistiques Agricoles. "Enquête Nationale Agricole 1989 : Production, Superficie, Rendement, Elevage et Leur Evolution 1984-89", MINAGRI/DSA, Kigali, Rwanda, november 1991. [DSA Publication No. 22]
177. Lassiter, Gregory C. "ASPAP/DAI Semi-Annual Report No. 9: August 1, 1991 to January 31, 1992", Development Alternatives, Inc., Kigali, Rwanda, February 1992.
178. _____. "ASPAP/DAI Rapport Semestriel No. 9 : du 1er Août 1991 au 31 Janvier 1992", Development Alternatives, Inc., Kigali, Rwanda, février 1992.
179. Ansoanuur, James S. "Semi-Annual Activities Report of ASPAP/DSA Economist: August 1, 1991 to January 31, 1992", Development Alternatives, Inc., Kigali, Rwanda, February 1992.
180. _____. "Rapport Semestriel d'Activités de l'Economiste ASPAP/DSA: du 1er Août 1991 au 31 Janvier 1992", Development Alternatives, Inc., Kigali, Rwanda, février 1992.
181. Tardif-Douglin, David G. "Semi-Annual Activities Report of ASPAP/DSA Policy Analyst/Special Studies Coordinator: August 1, 1991 to January 31, 1992", Development Alternatives, Inc., Kigali, Rwanda, February 1992.
182. _____. "Rapport Semestriel d'Activites de l'Analyste des Politiques Economiques/Coordinateur des Etudes Ponctuelles de l'ASPAP/DSA: du 1er Août 1991 au 31 Janvier 1992", Development Alternatives, Inc., Kigali, Rwanda, février 1992.
183. Tardif-Douglin et Serge Rwamasirabo. "L'Evolution des Taux de Change entre le Franc Rwandais, les Monnaies des Pays Voisins, le Dollar Americain sur le Marché Parallele", fevrier 1992 [available as Document de Travail DSA N°36]
184. Clay, Daniel C. "ASPAP/DSA Trip Report: February 9 - March 7, 1992, Michigan State University, East Lansing, Michigan, March 1992.
185. _____. "Rapport de Mission ASPAP/DSA: du 9 février au 7 mars 1992, Michigan State University, East Lansing, Michigan, mars 1992.
186. Megill, David "ASPAP/DSA Trip Report: February 25 - March 6, 1992, Development Alternatives, Inc., Bethesda, MD, USA, March 1992.
187. _____. "Rapport de Mission ASPAP/DSA: du 25 février au 6 mars, 1992,

52

Development Alternatives, Inc., Bethesda, MD, USA, mars 1992.

188. Lassiter, Gregory L. "Documentation des Fichiers et Programmes SPSS: l'Enquête Revenus-Dépenses (RD) de 1990", Development Alternatives, Inc., Kigali, Rwanda, avril 1992.
189. Loveridge, Scott. "Estimation du Revenu des Ménages Agricoles Rwandais, 1990: Description de la Méthode et Résultats de Base", Development Alternatives, Inc., Kigali, Rwanda, mai 1992.
- 189b. _____. revised version of 189.
190. Clay, Daniel C. "ASPAP/DSA Trip Report: April 19 - May 15, 1992, Michigan State University, East Lansing, Michigan, May 1992.
191. _____. "Rapport de Mission ASPAP/DSA: du 19 avril au 15 mai 1992, Michigan State University, East Lansing, Michigan, mai 1992.
192. _____. "Fighting an Uphill Battle: Demographic Pressure, the Structure of Landholding, and Land Degradation in Rwanda", Michigan State University, East Lansing, Michigan, May 1992. (draft)
193. _____. french version of report 192 (draft).
194. Ansoanuur, James S. "Market Price Trends for Six Principal Staple Food Crops and the Implication for Food Availability in the Prefectures of Gitarama, Gikongoro, Byumba, Kibungo, and Kibuye", Development Alternatives, Inc., Kigali, Rwanda, May 1992.
195. _____. French version of report 194
196. Megill, David "ASPAP/DSA Technical Report: Preliminary Recommendations for the Sample Design for the Rwanda National Agricultural Survey Program", Development Alternatives, Inc., Bethesda, MD, USA, March 1992.
197. _____. "Rapport Technique de l'ASPAP/DSA: ..., Development Alternatives, Inc., Bethesda, MD, USA, 1992. (still with Samuel).
198. Megill, David "ASPAP/DSA Trip Report: June 15 - 27, 1992", Development Alternatives, Inc., Bethesda, MD, USA, June 1992.
199. _____. "Rapport de Mission ASPAP/DSA: du 15 au 27 juin, 1992", Development Alternatives, Inc., Bethesda, MD, USA, juin 1992.
200. Megill, David "ASPAP/DSA Technical Report: Recommended Estimation Procedures for the Rwanda National Agricultural Survey Program", Development Alternatives, Inc., Bethesda, MD, USA, June 1992.
201. _____. "Rapport Technique de l'ASPAP/DSA: Procedures recommandés pour de l'estimation pour le programme national d'enquête agricole rwandais", Development Alternatives, Inc., Bethesda, MD, USA, (translation of ADR 200, forthcoming).
202. Loveridge, Scott. "Le revenu des ménages agricoles et les exportation du milieu rural, Rwanda, 1990", Development Alternatives, Inc., Kigali, Rwanda, juillet 1992.
- 202b. _____. "Les sources de revenu des ménages agricoles rwandais, les exportations et leur impact sur la disponibilité alimentaire en milieu rural", Development Alternatives, Inc. Kigali, Rwanda, juillet 1992. (see DSA Publication N°24)
203. Loveridge, Scott, David Megill, et Samuel Munyaneza. "Etude comparative Enquête Nationale sur le Budget et la Consommation des Ménages et Enquête Division des Statistiques Agricoles sur les Revenus et

- Dépenses des Ménages Agricoles", Development Alternatives, Inc., Kigali, Rwanda, juillet 1992.
204. Loveridge, Scott. "Rapport de Mission ASPAP/DSA: du 17 avril au 8 mai, 1992", University of Minnesota, sous-contractant, et Development Alternatives, Inc., Bethesda, MD, USA, juillet 1992.
205. Ansoanuur, James S. "A Forecast Model for Some Principal Crops in Rwanda", Development Alternatives, Inc., Kigali, Rwanda, July 1992.
206. _____. "Modele de previsions pour quelques cultures principales au Rwanda", Development Alternatives, Inc., Kigali, Rwanda, juillet 1992.
207. _____. "Semi-Annual Activities Report of ASPAP/DSA Economist: February 1, 1992 to July 31, 1992", Development Alternatives, Inc., Kigali, Rwanda, August 1992.
208. _____. "Rapport Semestriel d'Activités de l'Economiste ASPAP/DSA: du 1er Février 1992 au 31 Juillet 1992", Development Alternatives, Inc., Kigali, Rwanda, août 1992.
209. Rwalinda Pierre et David Tardif-Douglin, avec Uwamariya, Laurence. "Aspects de la Caféculture au Rwanda: Résultats de l'Enquête sur la Sensibilité-Motivation des Caféculteurs Rwandais", Publication DSA N° 25, Division des Statistiques Agricoles, MINAGRI, Kigali, Rwanda, août 1992.
210. Tardif-Douglin, David. "Semi-Annual Activities Report of ASPAP/DSA Policy Analyst/Special Studies Coordinator: 1 February 1992 to 31 July 1992", Development Alternatives, Inc., Kigali, Rwanda, September 1992.
211. _____. "Rapport Semestriel d'Activites de l'Analyste des Politiques Economiques/Coordinateur des Etudes Ponctuelles de l'ASPAP/DSA: du 1er février 1992 au 31 juillet 1992", Development Alternatives, Inc., Kigali, Rwanda, septembre 1992.
212. Ansoanuur, James S. "Food Consumption Parameters for Agricultural Households in Rwanda and their Application in Analysing the Impact of the Structural Adjustment Program", Development Alternatives, Inc., Kigali, Rwanda, September 1992.
213. _____. french version of no. 212
214. Tardif-Douglin, Catherine. "ASPAP/DSA Trip Report: November 15 - December 30, 1992 (Half-time)", Development Alternatives, Inc., Bethesda, MD, USA, October 1992.
215. _____. french version of no. 214.
216. Tardif-Douglin, David. "ASPAP/DAI Project Final Report", Development Alternatives, Inc., Kigali, Rwanda, November 1992.

**Liste de PUBLICATIONS
de la Division des Statistiques Agricoles
(DSA)
(17 novembre 1992)**

(Ancien Service des Enquêtes et Statistiques Agricoles--SESA)

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**NO. P.01: METHODOLOGIE ET RESULTATS SOMMAIRES DE L'ENQUETE NATIONALE
 AGRICOLE. PHASE PILOTE, 1985, 89 pages, 2000 FRWS.**

Ce document qui insiste davantage sur l'aspect méthodologique aborde d'autres points intéressants, à savoir:

- a) La phase d'identification (travail de bureau) comprenant la détermination des objectifs, la conception et l'élaboration des questionnaires, l'échantillonnage, les techniques de pondération, etc.
- b) Les opérations sur terrain comprenant la collecte des données et la vérification des questionnaires;
- c) Le traitement informatique, le redressement automatique, l'exploitation et la préparation des tableaux, etc.

Ce document fait aussi le sommaire des résultats obtenus lors de l'enquête pilote portant notamment sur la composition du ménage agricole, la superficie moyenne des exploitations agricoles, l'utilisation des terres, l'élevage et le niveau de production de certaines cultures principales.

**NO. P.02: SOMMAIRE DES RESULTATS DE LA PHASE PILOTE DE L'ENQUETE NATIONALE
 AGRICOLE, 1985, 87 pages, 2000 FRWS.**

Ce rapport qui constitue un extrait de la publication N°01 insiste beaucoup plus sur les résultats sommaires de la phase pilote et n'aborde donc pas l'aspect méthodologique. On pourra y trouver des informations plus détaillées sur la population agricole, les caractéristiques du chef de ménage, la taille des exploitations, morcellement des parcelles, les terres sous cultures, l'élevage et la production des principales cultures.

**NO. P.03: RESULTATS DE L'ENQUETE NATIONALE AGRICOLE 1984
 Rapport 1 - Volume 1, 1985, 425 pages, 6000 FRWS.**

Outre une introduction générale et un aspect méthodologique qui fournissent au lecteur les éléments indispensables pour l'interprétation des tableaux, ce volume 1 du rapport 1 est une compilation des principaux résultats chiffrés obtenus après la réalisation de la collecte et la tabulation des informations recueillies sur terrain. Ces résultats sont ventilés par préfectures, régions agro-écologiques et zones géographiques. Les chiffres portent notamment sur les caractéristiques démographiques de la population agricole, l'utilisation des terres et la taille de l'exploitation, les productions agricoles et l'inventaire des cheptels.

17 novembre 1992

NO. P.04: RESULTATS DE L'ENQUETE NATIONALE AGRICOLE 1984
Rapport 1 - Volume 2., 1986, 378 pages, 5500 FRWS.

Débutant comme le volume 1, ce volume 2 du rapport 1 ventile les mêmes caractéristiques du secteur agricole mais cette fois-ci croisées avec un sous ensemble de variables clés et ce aussi par préfecture, région agro-écologique et zone géographique. Les données chiffrées portent essentiellement sur le croisement des variables listées pour le Rapport 1, Volume 1 pour mieux étudier leur interaction.

NO. P.05: RESULTATS DE L'ENQUETE NATIONALE AGRICOLE 1984
Rapport 1 - Volume 3, 1986, 201 pages, 4000 FRWS.

Ayant la même introduction standard que les deux volumes précédents, ce volume 3 du rapport 1 compile les informations sous forme de tableaux concernant le questionnaire "Données Saisonnières". Celles-ci consistent dans une première section en une distinction entre la main-d'oeuvre extérieure utilisée sur l'exploitation et les prestations des membres de la famille en dehors de l'exploitation et en des estimations des productions animales dans une deuxième section tandis que la troisième traitait l'aspect commercialisation.

NO: P.06: RESULTATS DE L'ENQUETE NATIONALE AGRICOLE 1984
Rapport 1 - Volume 3 Annexe, 1986, 115 pages, 2500 FRWS.

Il s'agit d'un annexe du volume 3 renfermant les tableaux des erreurs de sondage pour toutes les variables considérées dans le questionnaire "Données saisonnières".

NO. P.07: PERTES DE TERRES DUES A L'EROSION. RESULTATS DE L'ENQUETE PILOTE SUR L'EROSION (ANNEE AGRICOLE 1984), par Yvan DEJAEGER, 1984, 24 pages, Stock épuisé.

Ce rapport à caractère descriptif essaie d'hiérarchiser les différents types d'occupation du sol en fonction de leur efficacité à protéger les terrains contre l'érosion et de tester l'efficacité de certaines associations de cultures, de certaines pratiques culturales et anti-érosives, en vue du calibrage de l'équation universelle de WISCHMEIER.

NO. P.08: DESCRIPTION SOMMAIRE DES PRINCIPALES CARACTERISTIQUES DE L'AGRICULTURE AU RWANDA. ENQUETE NATIONALE AGRICOLE 1984.
Rapport 2, 1987, 86 pages, 2000 FRWS.

Ce rapport identifie les aspects saillants de l'agriculture au Rwanda dans un esprit de synthèse. Il met à la disposition de l'utilisateur les principaux résultats principalement sous forme de textes et de graphiques émanant des analyses déjà amorcées mais d'une façon encore peu approfondie. Les informations portent surtout sur la composition et les principales caractéristiques démographiques de la population agricole, l'utilisation des terres, la production vivrière et caféicole, l'élevage, l'utilisation de la main-d'oeuvre agricole ainsi que sur le volet l'érosion.

17 novembre 1992

NO. P.09: INTEGRATION REGIONALE DES PRIX ALIMENTAIRES AU RWANDA : 1970-1986, par Sharon BYLENGA et Scott LOVERIDGE, 1987, 22 pages, 500 FRWS.

Ce document est une analyse de corrélation des prix de détails entre les marchés (1970-1986) pour quatre produits hautement commercialisés au Rwanda, à savoir : le haricot, le sorgho, la pomme de terre et la banane. L'analyse identifie les marchés que l'on dit "intégrés" (cohérents) pour tel ou tel produit et aborde aussi l'influence de l'amélioration du système routier de transport sur l'intégration des marchés.

NO. P.10: RESULTATS D'UNE ENQUETE SUR LE NIVEAU DE COMMERCIALISATION DU HARICOT A L'ECHELON DU PRODUCTEUR, par Serge RWAMASIRABO, Théobald KAMPAYANA et Scott LOVERIDGE, 1987, 14 pages, 500 FRWS.

Ce document présente de nouvelles informations recueillies par le SESA sur le sous-secteur du haricot. Y sont abordés notamment les problèmes de stocks de sécurité alimentaire, la spécialisation régionale de la production, et les politiques des prix.

NO. P.11: RESULTATS D'UNE ENQUETE SUR LE NIVEAU DE COMMERCIALISATION DU SORGHO A L'ECHELON DU PRODUCTEUR, par Scott LOVERIDGE et d'autres cadres du SESA, 1987, 29 pages, 1000 FRWS.

Ce document présente de nouvelles informations recueillies par le SESA sur le sous-secteur du sorgho. Y sont abordés notamment les problèmes de stocks de sécurité alimentaire, la spécialisation régionale de la production, et les politiques des prix.

NO. P.12: CARACTERISTIQUES DESCRIPTIVES DES COMMERÇANTS DES PRODUITS VIVRIERS OPERANT SUR DES PLACES FIXES DANS CINQ PREFECTURES DU RWANDA, par Scott LOVERIDGE et J. Léonard NGIRUMWAMI, 1987, 52 pages, 1500 FRWS.

Ce document fournit quelques renseignements sur les types d'investissement que font les commerçants dans le domaine des produits vivriers (Haricots, Sorgho, Pomme de terre), sur les variations des coûts de commercialisation de ces produits. Il tente aussi d'identifier les points faibles ainsi que les différents acteurs de la chaîne de distribution d'un produit vivrier.

NO. P.13: MODE D'OPERATION STANDARD DES COMMERÇANTS DES PRODUITS VIVRIERS OPERANT SUR DES PLACES FIXES DANS CINQ PREFECTURES DU RWANDA, par J. Léonard NGIRUMWAMI et Scott LOVERIDGE, 1987, 39 pages, 1000 FRWS.

Ce document contient des informations sur les stratégies des types de commerçants oeuvrant sur des places fixes face à certaines situations ainsi que sur certains éléments tels que les volumes d'achat, les ventes, les bénéfices, les moyens de transport, la capacité de stockage et le nombre de voies d'écoulement.

NO. P.14: **APERCU HISTORIQUE ET METHODOLOGIQUE DE L'ENQUETE NATIONALE AGRICOLE 1984**, par Yvan DEJAEGER, Dan CLAY, Serge RWAMASIRABO et J.L NGIRUMWAMI, 1988, 124 pages, 1500 FRWS.

Ce document fournit tous les détails sur la façon dont toutes les activités de l'Enquête Nationale Agricole ont été menées. Il fournit aux utilisateurs un ensemble exhaustif de faits concernant les méthodes de collecte et de traitement des données de l'Enquête. On y trouve surtout les informations sur le développement historique du projet, le plan d'échantillonnage, le contenu de l'enquête, les définitions des concepts, les méthodologies, le contrôle de la qualité des données et les coûts par catégorie de dépenses.

NO. P.15: **ESTIMATION DE LA PRODUCTION PAR LES AGRICULTEURS**, par Yvan DEJAEGER, 1988, 22 pages, 500 FRWS.

Dans le souci de mettre en place une méthode d'estimation légère, peu coûteuse et rapide de la production vivrière en milieu rural, le SESA a mené une étude sur l'évaluation du pouvoir estimatif "Quantitatif" des cultivateurs envers la production total de l'exploitation pour la saison en cours (environ un mois avant la récolte). Le présent document est donc une discussion des principaux résultats obtenus de cette étude.

NO. P.16: **IMPORTANCE DU HARICOT ET DU SORGHO DANS LE SYSTEME DE PRODUCTION DES CULTURES VIVRIERES AU RWANDA: DISPONIBILITES ACTUELLES ET PROJECTIONS POUR L'AVENIR**, par Scott LOVERIDGE, 1989, 122 pages, 2500 FRWS.

Ce document décrit la chaîne de commercialisation des deux produits et montre que le Rwanda rural importe les quantités non-négligeables de haricot et de sorgho. La majorité des ménages agricoles est acheteur net des deux produits. Les acheteurs nets sont généralement plus démunis que les vendeurs nets. Les ménages les moins productifs en termes caloriques par personne dépendent beaucoup plus sur la patate douce que les ménages plus aisés. La culture de la patate douce apporte plusieurs avantages par rapport aux autres cultures pour les ménages ayant un manque de production calorique: son rendement calorique par hectare par an est plus élevé, sa production est moins handicapée par les sols infertiles, et sa récolte est quasi-constante. La pression démographique et la non-disponibilité des terres indiquent que la patate pourra être de plus en plus favorisée comme une culture d'avenir. Mais le Rwanda deviendra probablement déficitaire en termes caloriques d'ici l'an 2010.

NO. P .17 **LE RÔLE DE LA FEMME DANS L'AGRICULTURE RWANDAISE**, PAR GERMAINE BUCYEDUSENGE, HYACINTHE FABIOLA, ANITA REGMI, LAURENCE UWAMARIYA, 1990, 76 PAGES, 2000 FRWS.

Cette étude s'efforce d'examiner le rôle que joue la femme dans l'agriculture rwandaïse. Les divers facteurs qui influencent leur contribution au développement agricole sont aussi passés en revue. Sur base de cette étude, on peut conclure que c'est surtout le cadre légal et les normes sociales en vigueur qui handicapent l'activité des femmes dans le développement agricole.

- NO. P .18 ETUDE SUR LES ENGRAIS MINERAUX ET LES PESTICIDES AU RWANDA PAR LAURENCE UWAMARIYA, HYACINTHE FABIOLA, TOM ZALLA, 1990, 83 PAGES, 2000 FRWS.

Le document montre l'utilisation des engrais et des pesticides au Rwanda. Sont décrits aussi la recherche et le développement qui sont basés sur les résultats dans les stations de recherche et projets. Des conseils sont aussi fournis dans l'approvisionnement, les prix et les subventions des intrants chez l'agriculteur

- NO. P .19 RESULTATS D'UNE ENQUÊTE SUR L'EXPERIENCE DES ENGRAIS MINERAUX ET DES PESTICIDES EN MILIEU RURAL AU RWANDA PAR LAURENCE UWAMARIYA, HYACINTHE FABIOLA, EMMANUEL SHINGIRO, TOM ZALLA, 1990, 37 PAGES, 1000 FRWS.

Le document a été fait dans le but de voir la tendance dans l'utilisation des engrais et pesticides. Quelle est aussi la sensibilisation des agriculteurs sur l'utilisation des engrais et pesticides . Une enquête qui a été conduite a suggéré d'autre part que la vulgarisation soit poussée plus loin pour que les paysans soient motivés davantage

- NO. P.20 THE ROLE OF SWEET POTATO IN RWANDA'S FOOD SYSTEM: The Transition from Subsistence Orientation to Market Orientation? DAVID GREGORY TARDIF-DOUGLIN, 1991, 104 PAGES, 2000 FRWS.

Or que la patate douce est une culture extrêmement importante dans le système alimentaire du Rwanda, elle a bénéficié de très peu d'études substantives. Ce document a été établi pour mettre fin à cette lacune lamentable. Sur base d'une enquête portant sur la moitié de l'échantillon national de la DSA, elle montre l'importance de la patate douce en faisant un constat de sa commercialisation et les potentialités pour mieux développer son marché, en le comparant avec ceux du manioc et de la pomme de terre. Disponible en français, comme publication P.21.

- NO. P.21 LE ROLE DE LA PATATE DOUCE DANS LE SYSTEME ALIMENTAIRE DU RWANDA: La transition de l'agriculture de subsistance à l'agriculture à des fins commerciales? DAVID GREGORY TARDIF-DOUGLIN, 1991, 104 PAGES, 2000 FRWS.

Version française de la Publication P.20.

- NO. P.22 ENQUETE NATIONALE AGRICOLE 1989: Production, Superficie, Rendement, Elevage et Leur Evolution 1984-89, 102 PAGES, 2000 FRANCS.

Outre l'introduction générale et l'aspect méthodologique qui fournissent au lecteur les éléments indispensables pour l'interprétation des tableaux, ce rapport est une compilation des principaux résultats chiffrés obtenus après la collecte des informations sur terrain. Il comprend les résultats ventilés par préfectures, par saison (A et B) et par mois. Les chiffres portent notamment sur l'utilisation des terres et la taille de l'exploitation, les productions agricoles et l'inventaire des cheptels. L'analyse de l'évolution de la production agricole, la superficie et le rendement, du cheptel et de la production animale depuis 1984 jusqu'en 1989 est une partie particulièrement traitée dans ce rapport.

NO. P.23 L'ESPECE CAPRINE AU RWANDA, SON POTENTIEL POUR UN DEVELOPPEMENT
FUTUR. par SERGE RWAMASIRABO, 30 pages, 1000 FRWS

L'étude sur la race caprine au Rwanda, la première du genre, est partie des données empiriques recueillies en 1984 lors de l'enquête nationale agricole de 1984 . Elles ont été complétées par une descente en 1989 sur le terrain qui a duré trois mois sur terrain. Toutes ces données ont confirmé l'hypothèse de départ qu'au fur et à mesure que la population accroit, les pratiques de l'élevage changent du grand bétail au petit ruminant. Les avantages semblent évidents surtout pour le caprin: un petit capital initial, peu de risque, suffisamment de résistance, non exigeant quant à son alimentation, le cash immédiat est toujours assuré en cas de mise en vente. Le caprin offre des avantages au niveau macro-économique surtout en ce qui concerne le produit dérivé à savoir le cuir. Le caprin est susceptible d'augmenter ainsi le pouvoir d'achat des paysans aux petites terres, situation qui tend de plus en plus à se généraliser au Rwanda.

Liste de DOCUMENTS DE TRAVAIL de la Division des Statistiques Agricoles
(DSA)

(Ancien Service des Enquêtes et Statistiques Agricoles--SESA)

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NO: DT.01: ENQUETE SUR LES PRIX. DESCRIPTION DES SERIES DES PRIX DEJA
EXISTANTS, par J. Chrysostome MUKENZANGAGO, 1987, 47 pages,
1200 FRWS.

Ce document se propose de contribuer à une meilleure connaissance des données actuellement disponibles au Rwanda en ce qui concerne les statistiques agricoles. Différentes sources fournissent pour le moment des prix agricoles: MINIPLAN, BNR, MINAGRI, MINIFINECO et OPROVIA; on peut trouver la méthodologie utilisée par chaque unité pour effectuer les relevés des prix et ainsi que leurs fréquences. Par exemple, OPROVIA/GRENARWA effectue des relevés hebdomadaires des prix des denrées alimentaires qui entrent dans les activités de stockage. Ainsi, les utilisateurs pourront comprendre les informations que ces données représentent sans effectuer des déplacements inutiles. A la fin de la brochure, se trouvent les prix du MINIPLAN, du MINAGRI et de la BNR pour mettre à la disposition des personnes intéressées, les prix provenant de différentes sources.

NO: DT.02: PROBLEMATIQUE DU NIVEAU DES TRANSACTIONS DU HARICOT AU RWANDA.
Résultats de six mois d'observations. 1985-1986, par Scott
LOVERIDGE, Yvan DEJAEGER et Serge RWAMASIRABO, 1986, 11 pages,
500 FRWS.

Cette brochure renferme une liste de tableaux permettant de mieux comprendre "la problématique du niveau des transactions du haricot au Rwanda" d'après les résultats de six mois d'observations. L'étude a montré que la production du haricot est déficitaire et ceci entraîne une importation significative du haricot des pays voisins ainsi que certaines conséquences. La stratégie idéale peut être de maintenir l'auto-suffisance dans des produits encombrants et à haute teneur calorifique tout en comptant sur des régions adjacentes pour des quantités supplémentaires de produits à marge commerciale inférieure.

NO. DT.03: RELATIONS ENTRE LA PRODUCTION, LA COMMERCIALISATION, LE PRIX ET
LA SECURITE ALIMENTAIRE DE CERTAINS PRODUITS VIVRIERS STOCKABLES
AU RWANDA, 1986, 14 pages, 500 FRWS.

Le projet de recherche s'est essentiellement centré sur l'identification et la meilleure compréhension des barrières à l'augmentation de la production et de la productivité à long terme des systèmes de productions vivrières nationaux. La stratégie alimentaire nationale que le gouvernement rwandais a mise au point pour augmenter la production totale et la consommation; son appui sur les centres de recherche pour renforcer sa capacité technologique, l'investissement pour l'amélioration des routes et les coopératives ont été favorisées. A été établi aussi avec l'assistance des pays donateurs, un système de stockage (GRENARWA). L'objectif de toutes ces recherches étant de constituer des ensembles des données existantes et complémentaires et qui seront utiles pour une analyse future.

NO. DT.04: PRODUCTION, MARKETS, PRICES AND FOOD SECURITY RELATIONSHIPS AMONG
SELECTED COMMODITIES IN RWANDA, 1986, 14 pages, 500 FRWS.

Version anglaise du Document de Travail DT.03.

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NO. DT.05 RELATIONSHIPS BETWEEN FOOD PRODUCTION, MARKETING, AND FARMER PERCEPTIONS IN FIVE PREFECTURES OF RWANDA, par Scott LOVERIDGE et Michael T. WEBER, 1986, 40 pages, 1200 FRWS.

Ce document présente les résultats d'une enquête menée sur un sous-échantillon de 250 des 1092 ménages enquêtés par le SESA. L'étude montre que les stratégies de sécurité alimentaire des ménages changent selon leur niveau de production calorique.

NO. DT.06: QUELQUES OBSERVATIONS SUR LES PROGRAMMES DE FIXATION DU PRIX PLANCHER ET DE RECHERCHE SUR LE HARICOT AU RWANDA, 1987, 10 pages, 500 FRWS.

L'étude spécifie les vendeurs et acheteurs nets du haricot et les contraintes de chacun. Il y a lieu de se demander quelles seraient les conséquences de taxer le café afin d'utiliser une partie de ce revenu pour soutenir le prix du haricot. Il est indiqué aussi les contraintes qui font que le fait d'augmenter le prix n'incite pas nécessairement le producteur à augmenter sa production. L'étude montre également les différentes considérations sur lesquelles le gouvernement devrait s'appuyer et qui jouent un rôle très important dans la sécurité alimentaire.

NO. DT.07: OBSERVATIONS ON PRICE SUPPORT AND RESEARCH PROGRAMS FOR BEANS IN RWANDA, 1987, 10 pages, 500 FRWS.

Version anglaise du Document de Travail DT.06.

NO. DT.08: REGIONAL INTEGRATION OF FOOD PRICES IN RWANDA, 1970-1986, par Sharon BYLENGA et Scott LOVERIDGE, 1987, 22 pages, 500 FRWS.

Version anglaise de la Publication P.09.

NO. DT.09: ATTITUDES, EXPERIENCES, CONDITIONS ET STRATEGIES DES EXPLOITANTS: Distributions de Fréquence. "Résultats d'une Enquête Ponctuelle auprès des Ménages Ruraux", par Théobald KAMPAYANA, 1987, 30 pages, 1000 FRWS.

Cette publication montre des tableaux où figure la distribution de fréquence des réponses des exploitants rwandais à certaines questions concernant les stocks, l'achat et la vente des produits vivriers, les prix incitateurs, les sources d'information en matière d'agriculture et le budget familial par préfecture.

NO. DT.10: LA PRODUCTION DE CERTAINES CULTURES VIVRIERES: La Sécheresse de 1984 Comparée à une Année Normale (1986), la Répartition Mensuelle de la Production Agricole et son Impact Possible sur la Stratégie Alimentaire, par Yvan DEJAEGHER et NGARAMBE Octavien, 1987, 20 pages, 500 FRWS.

La sécheresse de 1984 a beaucoup plus frappé les cultures de la deuxième saison, telles que les haricots, maïs et les patates douces. Les céréales, le manioc, et les bananes ont été très peu touchés par la sécheresse de 1984. Certaines cultures, notamment la patate douce et la banane montrent une grande importance sur la sécurité alimentaire, car elles procurent aux producteurs une production quasi-constante durant toute l'année. L'agriculteur a tendance à allonger la période de récolte malgré que cela ne maximise pas les rendements pour éviter les risques. L'année 1986 montre que CYANGUGU, GIKONGORO, et GISENYI n'arrivent pas à satisfaire leurs besoins caloriques à partir de leurs productions.

NO. DT.11: RELATIONSHIPS BETWEEN BEAN MARKETING AND BEAN PRODUCTION TECHNIQUES, Scott LOVERIDGE et Krista C. Dessert, 1987, 22 FRWS, 500 FRWS.

L'étude porte sur 15 ménages dans la Préfecture de KIGALI. Elle montre que les acheteurs nets de haricot sec ont tendance à utiliser plus de main-d'oeuvre par hectare dans leurs champs de haricot que les vendeurs nets de haricot sec.

NO. DT.12: OPTION DETAILLEE POUR L'HARMONISATION DE LA COLLECTE DES STATISTIQUES AGRICOLES AU RWANDA, par Gédéon MUDACUMURA, Tom ZALLA, et Hyacinthe FABIOLA, 1988, 19 pages, Stock épuisé.

Première proposition du SESA pour un système harmonisé de la collecte des statistiques agricoles qui a été présenté dans un séminaire du 4 février 1988 à KIGALI.

NO. DT.13: RESULTS OF A SURVEY ON FARM LEVEL SORGHUM MARKETINGS, par Scott LOVERIDGE et les cadres du SESA, 1988, 31 pages, 1000 FRWS.

Version anglaise de la Publication P.11.

NO. DT.14: BIBLIOGRAPHIE DES RAPPORTS ASPAP/DAI, par Gregory C. LASSITER, 1989, 5 pages, 500 FRWS.

Ce rapport fournit un listing des rapports effectués sous le contrat USAID/Development Alternatives, Inc., contractant institutionnel du projet ASPAP. Ce listing contient des synthèses des réunions sur la planification des activités du projet, des termes de référence pour certaines études, des rapports de mission des consultants à court terme, des rapports semestriels des activités du projet, ainsi que les rapports d'analyse de données effectués au sein du projet.

NO. DT.15: PROGRAMME DETAILLE POUR L'HARMONISATION DE LA COLLECTE DES STATISTIQUES AGRICOLES AU RWANDA, par Gédéon MUDACUMURA, Tom ZALLA, et Hyacinthe FABIOLA, 1988, 31 pages, Stock épuisé.

Version finale d'une proposition du SESA pour un système harmonisée de la collecte des statistiques agricoles qui a été présenté dans un séminaire du 13 mai 1988 à KIGALI.

NO. DT.16: PROPOSITION SUR LES ACTIVITES DE COLLECTE DES STATISTIQUES AGRICOLES PENDANT LA PREMIERE SAISON 1989, par Daniel C. CLAY, Hyacinthe FABIOLA, Jean KAYITSINGA, Gregory C. LASSITER, Octavien NGARAMBE, J.M.V. SEHENE, et Tom ZALLA, 1988, 41 pages, Stock épuisé.

Sommaire des nouvelles méthodes de collecte de statistiques, nouveaux questionnaires, et système de formation proposé pour la saison A 1989.

NO. DT.17: TENDANCES DE LA PRODUCTION ET SON IMPACT SUR LA SECURITE ALIMENTAIRE, par Octavien NGARAMBE, Gregory C. LASSITER et Scott LOVERIDGE, 1989, 10 pages, 500 FRWS.

Ce document aborde la composition de la production vivrière (en tonnes) et la production calorique par personne en milieu rural pendant les 5 dernières années. Les différentes tendances sont analysées suivant les préfectures et selon quelques produits typiques. Une comparaison des données sur les superficies démontre l'impact de la pression démographique sur l'utilisation des terres.

NO. DT.18: RELATIONS ENTRE LE COMPORTEMENT DES MENAGES DANS LE SECTEUR RURAL ET LES OBJECTIFS NATIONAUX A TRAVERS LES CULTURES SUI-VANTES: le Haricot, le Sorgho, la Patate douce et le Café, par Scott LOVERIDGE, 1989, 12 pages, 500 FRWS.

Cette étude examine la production et l'autosuffisance alimentaire en haricot et sorgho ainsi que le rôle important de la patate douce dans l'alimentation des petits exploitants du Rwanda. Le rôle du Café qui occupe pas mal des terres et qui est une source importante de revenu monétaires y est aussi abordé.

NO. DT.19: QUELQUES CARACTERISTIQUES DES MENAGES AGRICULTEURS-ELEVEURS, par Serge RWAMASIRABO, Hyacinthe Fabiola et Aloys MUNYANGAJU, 1989, 19 pages, 500 FRWS.

Ce document expose certaines caractéristiques saillantes des ménages agriculteurs-éleveurs qui permettront de mieux orienter l'étude vers l'identification des potentialités économiques de l'élevage des caprins.

NO. DT.20: SECURITE FONCIERE ET PRODUCTION AGRICOLE DANS UN CONTEXTE DE FORTE PRESSION DEMOGRAPHIQUE. (Expérience du Rwanda), par Benoît BLAREL, 1989, 29 pages, 500 FRWS.

Ce document aborde l'analyse de l'organisation du secteur agraire en particulier le régime foncier et le morcellement des terres au Rwanda. On essaie de réfléchir sur la situation actuelle du régime foncier traditionnel et identifier ces contraintes sur le développement du secteur agricole.

NO. DT.21: STRATEGIES NON-AGRICOLES AU RWANDA: Rapport Préliminaire, par Daniel CLAY, Jean KAYITSINGA, Théobald KAMPAYANA, Innocent NGEZI et Jennifer OLSON, 1989, 16 pages, 500 FRWS.

L'étude essaie de découvrir certaines stratégies suivies par les paysans rwandais pour confronter le problème de la diminution de la taille de leurs exploitations. L'accent est mis sur l'emploi alternatif, la migration et le contrôle de la fécondité.

NO. DT.22: RECAPITULATION DES RESULTATS DES DIFFERENTES PRESENTATIONS, par Serge RWAMASIRABO et Tom ZALLA, 1989, 10 pages, 500 FRWS.

Ce document résume les études des documents de travail DT. 17 à DT. 21.

NO. DT.23: JOURNEES DE REFLEXION SUR LES CONTRAINTES DE L'AGRICULTURE RWANDAISE ET LEURS IMPLICATIONS DANS LA FORMULATION DES POLITIQUES AGRICOLES: Une Synthèse des Conclusions, par Serge RWAMASIRABO et Tom ZALLA, 1989, 9 pages, 500 FRWS.

Ce document compile les principales conclusions issues des débats menés sur les documents de travail DT. 17 à DT. 21.

NO. DT.24: QUESTIONNAIRES UTILISES DANS L'ENQUETE NATIONALE AGRICOLE: SAISON A 1989, 1 NOVEMBRE 1988 AU 28 FEVRIER 1989, par Hyacinthe FABIOLA, Jean KAYITSINGA, Greg Lassiter, Octavien NGARAMBE, et Jean-Léonard NGIRUMWAMI, 1989, 53 pages, 1500 FRWS.

Ce document est composé des photocopies des questionnaires menés sur l'échantillon DSA au cours de la première saison culturale 1989.

NO. DT.25: QUESTIONNAIRES UTILISES DANS L'ENQUETE NATIONALE AGRICOLE: SAISON B 1989, 1 MARS 1989 AU 31 OCTOBRE 1989, par Hyacinthe FABIOLA, Jean KAYITSINGA, Greg Lassiter, Octavien NGARAMBE, Jean-Léonard NGIRUMWAMI, et Serge RWAMASIRABO, 1989, 53 pages, 1500 FRWS.

Ce document est composé des photocopies des questionnaires menés sur l'échantillon DSA au cours de la deuxième saison culturale 1989.

17 novembre 1992

NO. DT.26: RESULTATS DE L'ENQUETE SUR L'UTILISATION DES MARAIS, par Octavien NGARAMBE et Yvan DEJAEGER, 1988, 24 pages, 1000 FRWS.

L'enquête sur l'utilisation des terres de marais vise à connaître les droits fonciers sur les terres des marais pour les agriculteurs, la durée de la mise en culture, le niveau d'aménagement et les types de cultures qui ont été plantées en 1987. L'enquête montre que 70% des marais ne sont pas aménagés. Les agriculteurs signalent qu'ils ont le droit de propriété privée sur les terres des marais. Les marais sont exploités durant toutes les 3 saisons culturales, mais beaucoup plus pendant la troisième saison culturale où les cultures dominantes sont les patates douces, le haricot et le maïs. La superficie moyenne par champ est de 3 ares à l'échelle nationale. Les marais sont cultivés pour la majorité des cas depuis plus de 20 ans.

NO. DT.27: LA DESTINATION INTENTIONNEE DU HARICOT ET DU SORGHO ACHETES PAR LES PRODUCTEURS, par Scott LOVERIDGE, 1989, 7 pages, 500 FRWS.

Cette analyse des données collectées sur les transactions des producteurs durant l'année agricole 1986 montre qu'au moment de l'achat, la majorité du haricot acheté est destinée à la consommation. La majorité du sorgho acheté est destinée à la fabrication de bière. Le marché est une source importante des semences de haricot pour les producteurs tandis que le sorgho fait l'objet de beaucoup de transactions commerciales au niveau des exploitations.

NO.DT. 28 " RESULTATS DE L'ENQUETE SUR LE COMMERCE FRONTALIER AU RWANDA".
par NGIRUMWAMI J. Léonard, Juin 1989,

Ce document fait principalement un constat sur les transactions commerciales formelles et informelles entre le Rwanda et les pays limitrophes. Il essaie de relever certaines caractéristiques de ce commerce frontalier afin de mettre à la disposition des décideurs et planificateurs un constat de faits pouvant leur permettre à mieux orienter les politiques.

N. T 29 " RESULTATS DE L'ENQUETE SENSIBILITE/MOTIVATION DES AGRICULTEURS FACE A LA CULTURE DU MAIS DANS LA ZONE D'ACTION DU PROJET MAIS DES BIRUNGA". par NGIRUMWAMI J.-Léonard, Juin 1989, 11 pages, 500 FRWS.

Ce document est une compilation des résultats de cette enquête qui s'inscrit dans l'étude globale du marché et de la commercialisation du maïs dans le cadre du Projet Maïs des Birunga. On essaie de répondre à certaines interrogations, à savoir: les producteurs de la région sous étude sont-ils intéressés à augmenter leur production de maïs? Si oui, à quelles conditions? disposent-ils assez de terres pour le faire ou seraient-ils obligés d'opérer certaines substitutions? si oui, lesquelles? quelle serait la destination du Maïs produit?

NO .DT 30 CYCLE DE DEVELOPPEMENT FAMILIAL, CLASSE SOCIALE ET REPARTITION DES REVENUS EN MILIEU RURAL AU RWANDA PAR DANIEL C. CLAY, JEAN KAYITSINGA, JIM MCALLISTER, 1990, 13 PAGES, 500 FRWS.

Ce document nous permet de mieux comprendre d'abord les processus de dynamique socio-économique qui sont actuellement responsables des différenciations dans la production de revenus au sein du ménage avant même de poursuivre nos efforts d'augmenter les revenus des ménages agricoles au Rwanda

17 novembre 1992

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NO .DT 31 MIGRATION PERMANENTE DE LA POPULATION AGRICOLE AU RWANDA PAR
JENNIFER M. OLSON, DANIEL C. CLAY, JEAN KAYITSINGA, 1990, 22
PAGES, 1000 FRWS.

La lecture de ce document vous permettra comment la migration humaine n'est pas seulement l'apanage de ceux qui sont pauvres ou dépourvues de terres mais reconnue comme un mécanisme par lequel la population s'adapte aux conditions écologiques défavorables mais aussi est-elle perçue comme une voie vers une plus grande prospérité

NO .DT 32 MIGRATION TEMPORAIRE DANS LES MENAGES AGRICOLES AU RWANDA PAR
DANIEL C. CLAY, INNOCENT NGENZI, 1990, 13 PAGES, 500 FRWS.

L'étude essaie de déterminer à quel degré les ménages agricoles font la migration temporaire comme stratégie alternative à compléter leur besoin de subsistance.

NO .DT 33 L'EMPLOI EN DEHORS DU MENAGE AU RWANDA PAR DANIEL C. CLAY, JEAN
KAYITSINGA, THÉOBALD KAMPAYANA, 1990, 22 PAGES, 1000 FRWS.

Le document montre la contribution aux efforts qui sont actuellement déployés pour comprendre et favoriser les emplois non-agricoles au Rwanda en examinant de façon empirique l'état actuel de l'emploi au niveau du ménage et en recherchant sa relation avec les caractéristiques bien définis des ménages et des individus

NO .DT 34 PROPOSITION POUR UNE HARMONISATION DES METHODES DE COLLECTE DES
STATISTIQUES AGRICOLES PAR PIERRE RWALINDA, LAURENCE UWAMARIYA,
GILBERT DELEPIERRE, 1991, 7 PAGES, 500 FRWS.

Le document récapitule toutes les propositions qui ont été envisagées jusqu'à date sur l'harmonisation des méthodes de collecte des données statistiques agricoles au sein du Ministère de l'Agriculture, de l'Elevage et des Forêts. Vu que le système de collecte des données agricoles mis au point par la DSA est plus fiable mais coûteux pour une représentation des données au niveau communal, la dernière proposition faite au mois de janvier 1991 est celle d'affecter en permanence un enquêteur par commune. Ce système permet d'accroître la fiabilité par préfecture et la ventilation des données préfectorales à l'échelle communale.

NO .DT 35 ETUDE DE RECONNAISSANCE SUR LA PRODUCTION ET LES CONTRAINTES A
LA PRODUCTION DU MANIOC ET DE LA PATATE DOUCE AU RWANDA
PAR PIERRE RWALINDA, 1991, 15 pages, 500 FRWS.

Le document relate principalement les diversités régionales concernant la production et l'applicabilité à la fois du manioc et de la patate douce au Rwanda. Il met en évidence les contraintes majeures qui sont axées sur la détérioration de la fertilité des sols (Contraintes édaphiques), les aléas climatiques et les problèmes de maladies, de rongeurs, d'insectes ainsi que ceux d'autres ravageurs.

17 novembre 1992

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NO. DT 36 L'EVOLUTION DES TAUX DE CHANGE ENTRE LE FRANC RWANDAIS, LES MONNAIES DES PAYS VOISINS, LE DOLLAR AMERICAIN SUR LE MARCHE PARALLELE PAR DAVID TARDIF-DOUGLIN ET SERGE RWAMASIRABO, 1992, 9 PAGES, 500FRW.

Le document presente les résultats des premiers 6 mois de collecte des taux de change entre le francs rwandais les monnaies des pays voisins et le dollar américain. Il tire quelques conclusions sur la direction apparente de l'évolution ainsi que sur des fluctuations périodiques. Il fait partie (premier numéro) d'une série des rapports semestriels au sujet.

NO. DT 37 ESTIMATION DU REVENU DES MENAGES AGRICOLES RWANDAIS, 1990: DESCRIPTION DE LA METHODE ET RESULTATS DE BASE PAR SCOTT LOVERIDGE, 1992, 11 PAGES, 500FRW.

Il s'agit d'une explication de la méthodologie utilisée pour arriver aux estimations des revenus nets des ménages agricoles, ainsi que les estimations actuels sur la valeur de la production, de l'autoconsommation, des ventes, des achats d'intrants. Le coûts des intrants et les prix des produits agricoles sont aussi estimés pour l'année 1990. Ce document fait partie (premier numéro) d'une série des rapports annuels et périodiques au sujet.

Liste de RÉIMPRESSIONS de la Division des Statistiques Agricoles
(DSA)

(Ancien Service des Enquêtes et Statistiques Agricoles--SESA)

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NO. R.01: USES OF FARM AND MARKET DATA TO INFORM FOOD SECURITY POLICY IN RWANDA, par Scott LOVERIDGE, 1988, 529 pages, 8000 FRW.

Il s'agit d'une Thèse de Doctorat en Economie Agricole. Une condensation de ce document est reprise en français dans la publication P.16. Certains modèles économétriques sont présentés ici alors qu'ils ne figurent pas dans la publication P.16. Présentés en annexes sont les questionnaires utilisés lors de la recherche.

NO. R.02: COMMENT INFORMER LES DECISIONS TRAITANT DE LA SECURITE ALIMENTAIRE EN AFRIQUE: ANALYSES EMPIRIQUES ET DIALOGUE POLITIQUE, par Michael T. WEBER, John M. STANTZ, John S. HOLTZMAN, Eric W. CRAWFORD, et Richard H. BERNSTEN, 1989, 13 pages, 500 FRWS.

Il s'agit de la traduction d'un article publié dans American Journal of Agricultural Economics. L'article présente d'abord un aperçu historique du dialogue sur la politique agricole en Afrique depuis les années 70. Les auteurs suggèrent qu'il n'existe pas des solutions "recette" qu'on peut appliquer à chaque pays. L'article montre que la supposition que la majorité des producteurs est vendeur net des produits importants est fautive dans les pays suivants: Mali, Sénégal, Somalie, Rwanda, et Zimbabwe. Ceci implique que les efforts d'augmenter les prix de certains denrées agricoles peut appauvrir aussi bien les habitants des villes qu'une grande partie de la population rurale.

L'assistance technique doit travailler conjointement avec les gouvernements africains pour développer les banques de données pertinentes pour les décisions à prendre et pour vulgariser les informations déjà recueillies.

NO. R.03: ELEMENTS DES RESULTATS DE RECHERCHE AU RWANDA PERMETTANT D'ENRICHIR LES THEMES DE LA POLITIQUE ALIMENTAIRE EN AFRIQUE AUSTRALE, par Scott LOVERIDGE, Serge RWAMASIRABO et Michael T. WEBER, 1989, 23 pages, 1000 FRWS.

Ce document de réimpression est une traduction d'une communication présentée à une conférence au Zimbabwe en 1988. Le document donne les exemples des analyses qu'on peut faire avec les données limitées pour épauler l'amélioration des politiques agricoles. Les exemples pris proviennent du document de réimpression NO. R.01. Ce document sert comme résumé détaillé du document de réimpression NO. R.01 et de la publication NO. P.16.

NO. R.04: ECONOMICS OF QUALITY IN THE ARABICA COFFEE INDUSTRY OF THE KIVU REGION, ZAIRE, par David (Tardif)-DOUGLIN, 1986, 193 pages, 4000 FRWS.

Il s'agit d'une Thèse de Maitrise en Economie Agricole. Elle explore les raisons pour la chute en qualité du café produit au Kivu (Republique de Zaire) depuis l'indépendance aux années récentes, et propose une système de classification et des primes de café parche basé sur la production paysanne et non sur l'ancienne système de production sur les grandes plantations

NO. R.05: THE MARKETING OF SWEET POTATOES IN RWANDA: COMMERCIALIZING A PERISHABLE CROP UNDER ADVERSE CONDITIONS, par David TARDIF-DOUGLIN, 1991, 350 PAGES, 4000 FRWS.

Il s'agit d'une Thèse de Doctorat en Economie Agricole. Sur base d'une enquête portant sur la moitié de l'échantillon national de la DSA, elle montre l'importance de la patate douce en faisant un constat de sa commercialisation et les potentialités pour mieux développer son marché, en le comparant avec ceux du manioc et de la pomme de terre. Une condensation de ce document est reprise en français dans la publication P.20. Certains modèles économétriques sont présentés ici alors qu'ils ne figurent pas dans la publication P.20. Présentés en annexes sont les questionnaires utilisés lors de la recherche, ainsi que les résultats bruts de quelques enquêtes.

Appendix D: Letter of Commendation from MINIPLAN on Exchange Rate Reporting

REPUBLIQUE RWANDAISE
DIRECTION GENERALE DE
LA POLITIQUE ECONOMIQUE
R.P. 46 KIGALI

Kigali... 31/03/1992
N°... 12.../92/10.04.03

Reçu le 11/04/92
No Insc: 329/92
A Traverser par David
Date retour
Classement

07/08/92

Monsieur le Directeur du
Projet ASPAP/MINAGRI
KIGALI

Monsieur le Directeur,

Nous avons lu avec un grand intérêt le Document de Travail n°36 intitulé " L'évolution des taux de change entre le franc rwandais, les monnaies des pays voisins, le dollar américain sur le marché parallèle", (février 1992).

Nous tenons à féliciter les cadres de recherche de la Division des Statistiques Agricoles pour l'intéressant travail déjà accompli et les encourageons à poursuivre leurs investigations de façon à pouvoir disposer bientôt de séries sans rupture. Etant donné notre demande de ce type d'information dans le cadre du suivi du PAS, nous serions évidemment comblés si ces investigations pouvaient couvrir un éventail plus large de monnaies en y ajoutant particulièrement le shilling kenyan et deux autres monnaies convertibles en plus du dollar américain (le franc français et le franc belge par exemple).

Toujours dans le cadre de nos propres recherches, nous vous saurions gré de bien vouloir nous faire parvenir une copie de l'étude sur le commerce frontalier mentionnée à la page 5 du Document de Travail et intitulée: " Résultats de l'enquête sur le commerce frontalier au Rwanda", (juin 1989). Les résultats de cette enquête nous seront utiles comme premiers éléments d'information dans une étude que nous comptons entreprendre sur le même sujet mais dans une optique différente qui vise surtout l'évaluation de l'incidence de ce commerce sur notre balance des paiements.

Enfin, nous souhaiterions, à toutes fins utiles, que vous nous communiquiez régulièrement les données collectées sur les taux de change, données qui nous permettraient de suivre le comportement du franc rwandais au regard des objectifs du PAS qui préconise des mesures de politique économique pour parvenir à un équilibre entre l'offre et la demande des devises.

Veillez agréer, Monsieur, le Directeur, l'assurance de ma considération distinguée.

Le Directeur Général de
la Politique Economique

Copie pour information à:

Monsieur le Ministre du Plan
et de la Coopération
KIGALI

KANIMBA François
Le Directeur Général
de la Politique Economique
KANIMBA François

Appendix E: Summary of Cumulative ASPAP/DAI Expenditures

Rwanda ASPAP/DAI Contract
USAID Contract No. 696-0126

Cumulative Expense Report
01/01/92 through 09/30/92

Voucher Number: 54 - 62
11/02/92 11:43

Budget Line Item	Budget Quantity	Budget Code	Budget Amount	Expenses To Date	Expenses This Report	Cumulative Expenses	Remaining Budget Amount	% of Budget Spent
1.0 SALARIES AND WAGES		1000	704,398	537,318.83	109,426.12	646,744.95	57,653.05	91.8%
2.0 FRINGE BENEFITS		2000	82,950	61,385.24	11,157.33	72,542.57	10,407.43	87.5%
3.0 OVERHEAD		3000	692,261	537,270.11	92,720.27	629,990.38	62,270.62	91.0%
4.0 ASSOCIATE/INTERMITTENT STTA		4000	208,837	176,255.50	14,746.89	191,002.39	17,834.61	91.5%
5.0 TRAVEL/TRANSPORTATION/STORAGE		5000	571,207	306,843.41	68,065.36	374,908.77	196,298.23	65.6%
6.0 ALLOWANCES		6000	256,654	211,952.76	37,439.26	249,392.02	7,261.98	97.2%
7.0 OTHER DIRECT COSTS		7000	332,953	214,704.09	25,610.25	240,314.34	92,638.66	72.2%
8.0 EQUIPMENT AND SUPPLIES		8000	297,695	265,166.87	40,948.20	306,115.07	-8,420.07	102.8%
9.0 DAI TRAINING COSTS		9000	244,628	237,745.63	0.00	237,745.63	6,882.37	97.2%
10.0 SUBCONTRACTS		10000	1,320,463	1,076,370.71	175,188.23	1,251,559.00	68,904.00	94.8%
SUBTOTAL			4,712,046	3,625,013.21	575,301.91	4,200,315.12	511,730.88	89.1%
11.0 FIXED FEE		11000	287,954	221,488.30	35,151.03	256,639.33	31,314.67	89.1%
GRAND TOTAL			5,000,000	3,846,501.51	610,452.94	4,456,954.45	543,045.55	89.1%

Appendix F: Lassiter Memo on Future Support to DSA

To: Claudia Cantelle, Project Development Officer, USAID/Rwanda
Dirk Dijkerman, Program Officer, USAID/Rwanda
Louanne Douris, Assistant Program Officer, USAID/Rwanda
Kurt Fuller, ADO and ASPAP Project Officer, USAID/Rwanda
Jim Graham, Director, USAID/Rwanda

From: Greg Lassiter, Contractor Representative, DAI, ASPAP Project
(696-0126)

Date: December 31, 1991

Re: Recommendations concerning an ASPAP/DSA follow-on

As a result of several informal meetings with each of you over the past ten days, and to address Dirk's specific request, I will try to summarize my views about an ASPAP follow-on. Please note that the recommendations in this memo are mine alone, not DAI's, and that due to the holiday vacation season, contain only minimal input from some of my DSA colleagues. Also, I request that this memo be circulated only to the addressees, as it contains some remarks which might further alienate the project manager and should not be circulated outside the AID/R office.

As you might expect, this memo will argue that AID/R, in its own self interest, should continue support for DSA beyond the current 9/30/92 ASPAP PACD at a higher level than I understand to be currently under consideration. The overall level of funding would still be less than ASPAP because both the PLAN and FINECO activities have been discontinued and because a shorter time-frame is proposed.

The primary reason for a continued high level of support is that the institution building process to develop self-sustaining agricultural policy analysis capacity at DSA requires another 3 years technical assistance, training, and local cost support. This need should come as no surprise, as it has been consistently recommended by the 1989 ASPAP Mid-Term Evaluation, the former ADO, my ASPAP/DAI semi-annual reports, and majority of visiting consultants (both ASPAP and non-ASPAP). Although the Rwandan war, GOR delays in nominating LT training candidates, much wasted effort at ASPAP/FINECO and ASPAP/PLAN, and a long list of administrative and accounting problems have clearly retarded ASPAP progress at DSA, I don't see how a follow-on phase was ever avoidable. The Mid-Term Evaluation foresaw this need in mid-1989 well before the majority of ASPAP implementation problems surfaced and before the Rwandan war.

The secondary, and closely related, reason for a follow-on phase is that DSA is a very fragile institution that is still far too dependent on a few key staff members and on technical assistance. Thus I predict that DSA's true policy analysis components--currently a small part of DSA's overall activities relative to routine agricultural statistics processing--will collapse rapidly once key DSA staff members perceive that a follow-on phase either: 1) will not be funded, 2) will be supported at a substantially lower level, or 3) will only be funded after a sizeable time gap after PACD. I have been working over the past few months to develop strategies to avoid such an institutional collapse, but

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my last week's meetings with you and DSA staff lead me to believe that the miscommunications on these issues is so great that collapse is likely, within six months after PACD, if not before PACD.

As you fully know, I am not a disinterested, objective party in this debate. I began working on ASPAP's predecessor project in January 1985 when I led the ASAP mid-term evaluation, a ten week's consultancy in the summer of 1985, and full-time since August 1987. Thus I urge you in the conclusion of this memo to field a mini-design team--as small as a single TDY with sufficient technical background--to provide an updated evaluation of DSA, a review of what I propose, and an objective recommendation for a DSA follow-on phase.

DSA's institutional evolution--the predecessor ASAP project

ASPAP's predecessor project ASAP (Agricultural Surveys and Analysis Project), ran from 1982-87 and provided a strong base for ASPAP at DSA (then named SESA). ASAP was widely accepted as a successful project because it implemented Rwanda's first agricultural census (Enquête Nationale Agricole) in 1984 and published results during 1985-87. The survey utilized 150 enumerators and interviewed 2100 rural households twice per week over a one year cycle. The data collection continued over 1986-87 with a reduced enumerator staff of 78 following 1096 households weekly. Technical assistance for this massive undertaking was provided by STTA from the US Bureau of the Census, primarily by sociologist Dan Clay. AID/R tried unsuccessfully during 1981-1985 to recruit a PSC LT agricultural economist for ASAP, so the primary LTTA during the data collection and analysis phase was provided by a Belgian ingenieur agronome Yvan Dejaegher and AID/R PSC computer programmer Jim Otto.

Although ASAP was quite successful implementing such a massive survey in a short time, the data collected were fairly unsophisticated--focusing only on crop production, acreage, livestock inventories, and some simple demographic and sociological indicators. Data were not collected in a way that permitted the estimation of yields and virtually no data were collected on the economic and farm management aspects of agricultural production, such as marketing, prices, input use, and labor use (except descriptive farm task allocations by sex/age). In addition, enumerator work loads were unusually low--only 14 households per enumerator--despite the small amount of data collected and with less than 1/3 of fields measured. However, BUCEN justifiably chose to err towards less sophistication in order to ensure successful implementation of the first survey, plus the project suffered from the unfilled agricultural economist LTTA position.

Another weakness of ASAP was the lack of qualified Rwandan's--only 2 AO's were available during most of the execution phase--and the resulting failure to fill the LT training positions budgeted. As a result, ASAP ended with only limited institutionalization of a relatively unsophisticated routine agricultural statistics collection system. As of 1987, DSA (then SESA) was still dependent on technical assistance from Clay, Dejaegher, and Otto for both the collection and processing of routine agricultural statistics. Another weakness of ASAP was the

limited analytical capacity, particularly in the area of economic and agricultural policy analysis. This was due to a shortage of trained Rwandan staff, lack of TA with economic or farm management analysis experience, and an unsophisticated agricultural statistics data base with little economic or farm management content on which to base such analysis.

DSA's evolution under ASPAP

The objective of ASAP's successor project, ASPAP (Agricultural Surveys and Policy Analysis Project) was to move DSA (then SESA) into a more sophisticated phase designed to:

improve policy formulation for the rural economy by improving the quality and increasing the quantity of the information base from which policy is formulated and by strengthening the institutions responsible for provision of such information.

Although DSA was the focus of the majority of ASPAP local cost support, equipment, training, and TA, ASPAP also included activities at MINIFINECO (DG Politiques Economiques) and MINIPLAN (Direction des Enquêtes Statistiques). The purpose of adding FINECO and PLAN was both to transfer DSA/SESA's previous data collection expertise to these two data collecting agencies and to link DSA to ministries more influential in the GOR policy formulation process than MINAGRI.

Unfortunately, the FINECO and PLAN linkages have been costly failures, not only because of failed institution building and squandered resources, but because of the enormous amount of wasted effort, administrative problems, and accounting crises caused by these two agencies, which have greatly detracted from the contrastingly successful institution building at DSA. To summarize briefly, FINECO chose to use its entire ASPAP budget (and more) to implement a study of recurrent costs of communal public services. While the study was successfully implemented, it was only tenuously linked to ASPAP project objectives. Even more importantly, FINECO was so over budget that DSA has suffered enormously since 1988 in terms of accounting problems, disallowed reimbursements, and budget blockages, and continues to pay the price of uncontrolled FINECO spending and the wrecked Pajero ponzi scheme. As to PLAN, ASPAP has provided 36 PM of LTTA and 31.2 PM of STTA (for a total of 5.6 person-years of TA) primarily to clean and tabulate a 1985 urban ENBC data set of approx. 300 households. This followed 7 person-years of TA provided to PLAN by predecessor ASAP and PRIME projects to clean and tabulate the 270 household rural ENBC data set. Not only is the urban ENBC less linked to ASPAP objectives than the rural ENBC was, but PLAN provided little or no counterparts for the vast majority of all LTTA and STTA for both surveys. All ASPAP has to show for the 5.6 p-y of TA effort are three reports (ENBC urban results, description of existing GOR data bases, and consumption and supply elasticities). ASPAP had no impact whatsoever on improving data collection methods or institutionalizing economic or policy analysis capacity at PLAN, although a very minor impact was made at FINECO on analysis. Both these problems were identified in the ASPAP Midterm Evaluation of June 1989, where the PLAN

misuse of TA was particularly lambasted--a problem which was never resolved right up until Jim Ansoanur ended his work at PLAN on 11/1/91.

Institution building successes at ASPAP/DSA

Successful LT training: As opposed to the predecessor ASAP training experience, ASPAP has successfully trained substantially more people than planned in the ProAg. Originally, only 25 PM of ST training and 8 LT training programs were budgeted in the DAI contract, half of which was intended for DSA. However, the ST training funds were allocated in a way to provide 137 PM of ST training, including three 15 PM program in computer programming and survey methods at BUCEN/ISPC (two programs for DSA staff, one for PLAN). In addition, the DAI/MSU subcontract has implemented all 8 LT training programs, although one for PLAN had to be converted from an MS to a 15 PM survey data processing program at BUCEN/ISPC due to a lack of AO candidates. Another 4 LT training programs not planned in the ProAg have been implemented in the past two years--3 funded by ASPAP and one privately funded by MSU. The 8 MS programs in the following fields: agricultural economics (3), economics (2), statistics, sociology, and sociology/statistics. In addition, ASPAP funded a BS in Economic Policy and a 15 PM BUCEN/ISPC survey methods program outside the ASPAP/DAI contract. Thus, including all the 15 PM BUCEN/ISPC programs, 14 LT training programs have been implemented under ASPAP. Of the 13 LT trainees (one trainee attended two of these programs), at least 8 are from DSA (we anticipate that another may transfer to DSA).

While this is a very successful training effort, ASPAP has yet to profit substantially from the skills learned by these trainees. First, due to delays in the GOR trainee nomination process (mainly due to delays at MINIFOP to "affect" the new GOR employees), most trainees did not go to the US until June 1989, 1½ years into the project, rather than during the first six months as required in the ProAg. One did not leave until 1990 and three departed only in 1991. One of the three that have returned to ASPAP/PLAN is still unemployed (after 5 months), another is seriously underemployed in an area outside his area of training, and another is well employed, but outside of ASPAP/PLAN activities. Of the three that have returned to DSA, two spent six months in prison without charge related to the Rwandan war, one of which was immediately demoted upon release. We anticipate the return of one of the five remaining DSA trainees in the next week or so, with the other four returning during the final month prior to PACD.

Increased sophistication and institutionalization of the routine agricultural statistics collection and data processing system: During the 1988-89[1], major innovations were made in the extent, efficiency, data handling procedures of the routine agricultural statistics system. In July-August, a new sample of 1248 "intensive" (weekly interview) and 1248 "extensive" (quarterly interview) rural households was designed which resolved some sampling problems (clustering/dispersion tradeoffs) and increased sample efficiency by approximately 10-20%. Workloads were increased from 14 weekly households and 33% field measuring per enumerator to 16 weekly and 16 quarterly households, plus a doubling the

IAMSEA, MINIPLAN, and any of the private computer training institutions (Genie, Compulec, Transintra, etc.). We have 12 IBM desktop computers (3 XT, 3 AT, and 6 PS/2 series) and eight IBM compatible laptops in full-time use. Approximately 15 Rwandan analysts and office staff (not counting 5 full-time data entry staff) have strong expertise in Wordperfect, SPSS, and Lotus, with a smaller number having experience in Dbase, Harvard Graphics, and various other software packages. We currently have a temporary staffing problem in this area, since four of our most computer skilled staff are among the five LT trainees due to return from the US in the next 8 months. This, plus the six months' imprisonment of our BUCEN trained computer programmer last year has created a serious backlog in data cleaning and tabulation, but we hope to break through this backlog by the end of 1992, once these staff members return.

Special studies capacity and "Equipe Mobile": By far the most important institution building innovation during ASPAP has been the recently developed "Equipe Mobile" and the associated increase in special studies capacity. It was clear as early as the 1985 during the ASAP midterm evaluation that DSA needed to move beyond routine agricultural statistics collection in order to provide information on a timely basis to address key economic and agricultural policy questions. Routine agricultural statistics are a necessary prerequisite data base for such policy analyses, but alone are insufficient. Special, quick turnaround studies are obviously needed. In addition, such special studies help develop survey, data processing, and analytical skills in DSA staff in a more rapid and well-rounded manner than our routine agricultural statistics system.

It was clear from early on that DSA's relatively unsophisticated agricultural statistics collections system was quite cumbersome for use for focused, single interview surveys. This became painfully clear during the 1988 Land Tenure study, the 1988 Non-Farm Strategies study, and the 1989-90 Fertilizer and Pesticide study, in particular. The logistics and expense of training 78 enumerators for a "single interview" special questionnaire is horrendous. In addition, the Land Tenure study demonstrated that our relatively unsophisticated enumerators (only 3 years post-primary education) are not easily trained in the use of more complicated questionnaires. Since it can require 5 - 10 "supervised" interviews before an unsophisticated enumerator fully understands a new questionnaire, it proved quite inefficient to use our 78 base enumerators for single interview special studies, as each would only be conducting 16 interviews. The error rate was enormous on our few experiments with this system (land tenure, prévision des récoltes, livestock, etc.).

To correct this problem, we experimented with the use of the 10 préfectoral supervisors to conduct the interviews of the 1248 household for the Non-Farm Strategies and Fertilizer questionnaires. The training efficiency, implementation problems, and error rates were greatly improved, but each study fully occupied the supervisors for 8+ weeks, during which time no supervision took place. Further, we learned the hard way that special studies cannot be effectively managed by recurrent STTA (such as Zalla on the fertilizer study) because of the need to be "on call" during the entire period of data collection, data cleaning, and

tabulation. Thus the Non-Farm Strategies study had far fewer implementation and data processing problems, because the local hire STTA (Catherine Tardif-Douglin) worked full-time over a six month period attending to the various problems and crises as they arose.

By June 1990, it became clear that DSA needed greater special studies capacity based on: 1) a smaller number of higher level enumerators (to improve training efficiency and the questionnaire learning curve), 2) enumerator mobility (motorcycles, rather than foot soldiers) to permit better coverage and data collection outside the sample clusters, such as in markets, 3) continuity of TA support (LTTA rather than STTA). Thus it was recommended in June 1990 and agreed to by DSA and AID that STTA funds be converted to LTTA to create a new "Special Studies Coordinator" position, that a 10 enumerator "Equipe Mobile" be formed, and that 10 motorcycles be ordered. Partially due to the Rwandan war, various paperwork and procurement delays, etc., the new LTTA position began work in March 1991, the 10 enumerators were hired in June 1991, and the motorcycles delivered in September 1991. The Equipe Mobile and the new Special Studies Coordinator (David Tardif-Douglin) have been a huge success, having completed the data collection phase (1248 households each) for three studies (coffee, sweet potatoes, and cassava) and is midway in completion of the nutritional surveillance survey of 2496 households.

The challenge for the near future is to institutionalize this special studies capacity. Institutionalization will probably take another 2-3 years, since special studies are more complex than our routine statistics program. Every study is different and we need more experience with the different types of survey and questionnaire designs. Also, we don't have much experience yet with the data processing, cleaning, and analysis aspects of these focused studies, particularly with linking their results with our seven year data series. While special studies are designed for quick data processing, the data sets are far richer analytically and often quite large compared with our routine agricultural statistics. We currently lack the MS trained staff to deal with all the analytical challenges these special studies pose.

Finally, we are restricting our "Equipe mobile" activities to single interview questionnaires used only on our existing sample. Once we feel sufficiently experienced with this methodology, we hope to branch out beyond our current sample (trader surveys, data collection in markets, cross-border trade, ag. processing, etc.) and into alternative data collection methodologies (informal group interviews, reconnaissance surveys, farming systems methods, etc.). It is anticipated that we will also be called on to conduct project evaluation and monitoring surveys. We anticipate developing this capacity only after 1-2 more years experience with the current system. We may want to hire an additional 5 enumerator team for such "off-sample" survey work.

Contracting and revenue generation: Another important side benefit of developing our special studies capacity is that it generates revenue through contracting for studies with other donors besides USAID. This has some potential for making the "Equipe Mobile" self-financing, although I don't foresee covering more than 50% of its costs in the coming

year. Also, I do not encourage trying to make the Equipe Mobile 100% self-financing, since this would make DSA's policy research agenda totally determined by other donors. Also, recent changes in UNICEF and other donor funding regulations have reduced the potential for the self-financing of these activities.

The primary benefit of such revenue generation in the past was that it provided a rolling fund and thus a buffer during the periods when AID funding was blocked due to budgetary disputes and accounting problems. Also, it is DSA's only hope for continuation of activities should AID not fund a follow-on phase. However, it would seem that key DSA staff would be more likely to take their DSA contracting experience to private sector consulting firms--which is how Genie was formed--if ASPAP funding declines or ends at PACD. While the Rwandan private sector would gain, only the most capable, self-sufficient DSA staff could successfully transfer their skills, thus further weakening the already fragile DSA, and almost certainly ensuring its collapse.

Establishment of an agricultural policy analysis data bank: Another area of successful institution building is in the area of establishing a data bank useful for agricultural policy analysis. We now have a complete series of monthly (except only seasonal data for 1984/5) agricultural production data for every crop season since 1984B, except 1985B and possibly 1991A--we may not be able to analyse this due to the October war's effect on collection and some management slippage at DSA when Serge and Shingiro were imprisoned. We have spotty acreage data (33% sample for 1984, 1986, plus other years never analyzed due to programmer ineptitude, since corrected by programmable calculators), but continuous acreage, crop density, and yield data since 9/88. We have livestock inventories for 1984, 1986, and 1989-present. We have continuous monthly agricultural marketing (crops and livestock purchases and sales), labor use, off-farm employment, and non-farm income since 9/89. Most importantly, we have a large set of data from 19 special studies on marais, land tenure, non-farm strategies (migration, off-farm employment, family strategies for dealing with land scarcity), fertilizer and pesticide use, Rwandan border trade, coffee production, sweet potato production and marketing practices, cassava production and marketing practices, agroforestry and soil erosion practices, and nutritional status of infants (up to age 5) and nursing women. All data are stored in documented SPSS files which can be accessed and analyzed by Rwandan staff on our DSA IBM microcomputers.

The down side is that we are temporarily very short staffed in terms of our best computer skilled personnel, four of which are completing LT training in the US over the next six months. Also, while the data exist, we currently lack the staff, time, and staff experience to conduct any sophisticated analysis which cuts across individual data sets. Only recently has analysis been completed on the evolution of agricultural production, yield, cropping pattern, land use, and livestock ownership patterns over the 1984-89 period. To date, our limited research staff has not had the time or experience to go much beyond simple tabulations or descriptive analysis of single data sets to which they are assigned. Another part of the problem is that perhaps 70-80% of all existing DSA data has been generated in the past three years, and less than half of

ASPAP's limited impact on GOR agricultural and economic policy formulation: As noted in the June 1989 ASPAP Midterm Evaluation, the designers of ASPAP were probably incorrect to assume that ASPAP could ever function as a classic "policy analysis" project within its original time frame. There are several reasons for this: 1) unlike many other African countries, agricultural policy is not a major constraint to Rwandan agricultural development--the primary constraint is lack of viable, self-sustaining technology; 2) DSA needs much more institution building (more sophisticated routine ag. statistics, LT training of staff, increased data processing capacity, special studies capacity, etc.) than ASPAP's time frame allows before it can reach the stage of moving from an agricultural statistic bureau to an economic analysis bureau; 3) INEKO and PLAN had less capacity and potential to make this transition and their inclusion in ASPAP proved a serious hindrance to project implementation which hurt DSA; 4) MINAGRI plays only a limited role in GOR policy formulation, limiting DSA's growth into this area and contributing to MINAGRI's misperception of DSA as little more than an ag. statistics office; 5) institution building for economic analysis takes a longer time frame, particularly in a country with such a weak economic data base, weak research institutions (UNR, ISAR), and a shortage of trained, experienced personnel.

The challenge for DSA has been to try to create a demand for economic policy analyses which GOR policy makers can use to better design and formulate policies. The major problem is that GOR policy making is highly centered in the Présidence, MINIFIN, and, to a lesser extent, MINIPLAN. For political reasons and due to lack of experience, policy makers often make decisions without information or analyses to demonstrate the costs, returns, or overall impact of policies under consideration. Experience in other similar situations suggests that once policy makers are aware of the types of economic analysis which DSA can provide, and the sorts of special studies we can undertake on demand, that the requests for DSA studies and analyses and their use in policy formulation will increase dramatically. Unfortunately, until 1988, DSA focused most of its efforts almost entirely on routine agricultural statistics collection, with the exception of Loveridge's bean and sorghum marketing studies. However, as DSA has built its special studies capacity incrementally since 1988, with an incremental jump in June 1991, it is clear that policy makers now have access to information far more useful than ever before.

While good progress has been made in "policy analysis demand creation" under ASPAP, DSA still gets most of its special studies and analysis requests from the donor and project management community. Also, there is still a residual misperception by MINAGRI of DSA's role in agricultural policy formulation, which I had hoped that ASPAP Director Murekezi could help correct, but progress is slow.

DSA is still a very fragile institution: The six month imprisonment of two key DSA staff members (Director Rwamasirabo who completed an MS in agricultural economics at MSU in 8/90 and BUCEN/ISPC trained computer programmer Shingiro) in 1990-91 demonstrated all too dramatically how dependent DSA is on key experienced personnel. While both are back and working, I am concerned about their morale and know that both could

easily find higher paying employment elsewhere. These two people have a total of 14 years experience with ASPAP and ASAP. We could also lose other excellent staff at DSA, such as Murekezi or Laurence, although they have far less experience at DSA and represent only a minimal AID training investment. Of the 6 returning LT trainees, five embody 31 person years of ASPAP and ASAP experience. Of these five, the four most skilled could easily find employment outside of ASPAP.

DSA (and former SESA) has a history of being able to keep good people who have higher paying alternatives because the project has an excellent reputation, excellent staff, is well equipped, and does interesting, high quality, and useful work. During my current 4½ years and 1985 consultancies, I have encountered very few cases of high level staff (A2 or higher) who were generally considered either difficult to work with or unmotivated. In almost all cases, these less desirable staff members moved on to other work, but the good people stayed. This is not the typical situation you find in many GOR offices, and is certainly an exception noted by many consultants and visitors who are familiar with the local situation. Of the five African countries where I have worked, plus perceptions of the dozen or so I have visited, and the four jobs I had in the US, DSA is the best working situation I have known. However, DSA, as an institution, is totally dependent on keeping a nucleus of experienced, trained, and motivated people. I fear that once AID support for DSA slips, even partially, that some key people will leave, reducing the incentive of other key staff to remain, and the institution will collapse. Perhaps this is overly pessimistic--DSA certainly can survive without all the key staff intact, but once you lose 2 or 3, the rest will either leave or "retire at the desk" by moonlighting as consultants during and after hours (a major problem with computer programmers, but also anyone with computer skills or an MS in agricultural economics)

DSA still needs substantial TA support: My colleagues at DSA would undoubtedly disagree with this, at least in terms of magnitude. I have never worked in a country that is so proud and secretive about TA support. While I find the level of motivation, pride in work, intelligence, and perseverance very high among DSA staff, general management and organizational skills, research and analytical experience, and some quantitative skills still need improvement. What I find particularly difficult is that people will march ahead on some task without conferring with others who they know have more experience or knowledge of that specific task. There is also a tendency to keep the TA "derrière le rideau" whenever there are important discussions or negotiations. I don't find this unreasonable, and can see how it results from pride or perhaps timidity, but it gets us in trouble at times due to overcommitments, underbudgeting, missed deadlines, costly mistakes, lower quality work than necessary, and time wasted. There is also a serious misperception that once you have done it once in a group, you therefore know how to do it alone the next time.

The areas where DSA definitely needs TA support beyond PACD are: 1) design, execution, data processing, and analysis of special studies, 2) economic and agricultural policy analysis, 3) report writing and publication, 4) more sophisticated data processing and data aggregation

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tasks in SPSS, 5) presenting results at seminars, 6) internal office management and organizational skills (personnel management, time management, studies planning/budgeting, coordination of activities), 7) financial management and accounting, 8) budgeting and contracting, 9) secretarial skills, 10) maintaining and improving of general computer skills (WP, Lotus, SPSS, graphics, misc.) among existing staff, and 11) training computer skills for new staff.

My Rwandan counterparts would undoubtedly agree with this list of needed skills that TA can help DSA staff develop, but I expect they would think that a single LTTA could handle this, as was assumed under ASPAP. When ASPAP was designed, the PP planned on 5 LTTA positions, 3 of which at DSA. However, Rwandans negotiated a ProAg which converted the 5 LTTA positions into 2 LTTA positions (4 P-Y at DSA, 3 P-Y at PLAN), converting the other 3 LTTA posts into 112 PM of STTA. During my first 15 months at ASPAP (8/87 - 11/88), I was the only LTTA in the project, spending 70-80% of my time on administrative tasks and the rest trying to be the DSA Agricultural Economist. Ansoanuur arrived at PLAN in 11/88 and spent 3 years there. Lassiter was the sole LTTA at DSA for 3.75 years, during which time he never had more than 33% of his time available for TA, due to his administrative load. My feeling is that the above responsibilities require 3 LTTA positions designed around the first two tasks, with the remaining 8 tasks covered on an ad hoc basis by LTTA with some STTA support.

Inefficient sample: DSA's current sample of 2496 (50% weekly, 50% monthly) households is somewhat inefficient and cumbersome because our 78 enumerators work on foot. Because of the limited distances they can cover, the sample is very clustered, hence statistically inefficient, with "Design Effects" of 2.0 or greater. This means that if enumerators could cover greater distances, we could have the same statistical precision (standard errors) with a smaller staff, or better precision with the same staff. A design effect of 2.0 means that our current "clustered" sample is twice as large as it would have to be if our sample were completely random, meaning that each of our 78 enumerators could cover on average 1/78th of Rwanda's area, or an average work or 300+ km², which is impossible on foot.

While a design effect of 2.0 is not unacceptable given our current limitations (mainly the fact that bicycles can't be used in the hilly majority of Rwanda's area), we think we can reduce this to 1.5 in our next sample design and reduce the enumerator staff to 40 or 50 by converting to motorcycle transport. An additional benefit of this new sample design is that it should provide representative data at the level of 18 ecological zones and 30 subprefectures, versus 5 zones and 10 prefectures of our current sample. This takes us as close as we can get to the 144 commune level data that MINAGRI wants. Dave Megill, a BUCEN/ISPC sampling specialist who worked with the ASAP and current ASPAP sample design, will be working with Dan Clay in February to redesign this sample.

Miscellaneous implementation problems: There have been a multitude of problems which have hampered and delayed ASPAP's implementation. While many of these may have been avoidable, such problems go with the

territory, could have been even worse, and probably should not be considered a primary reason why ASPAP needs a follow-on phase. These have been covered ad nauseum in other reports, mainly the ASPAP Midterm Evaluation, ASPAP/DAI semi-annual reports, PIR's, consultant reports, and internal memos. To briefly summarize, these include: 1) the GOR's budget crisis which reduced its ASPAP recurrent cost contribution strictly to staff salaries and thus provided no rolling fund, a long list of budget/accounting problems, project management problems, high staff turnover over the past 4½ years (six ASPAP directorship changes among four individuals, typically without sufficient transfer of information, 5 ADC's, 5 project managers, 7+ RCO's, and soon to be 4 AID directors, etc.), lots of minor staffing problems (keypunching, secretarial, documentation, publication), b^Fsic office and personnel management problems at DSA, performance problems from the current project manager, and major equipment procurement delays.

Technical Assistance Recommendations for an ASPAP/DSA Follow-on Phase

My recommendations for technical assistance, by order of priority, is for three LTTA positions: Special Studies Coordinator, Senior Policy Analyst, and Social Scientist, plus 24 PM STTA. Later in this section, I outline some alternatives for paring this down through the substitution of STTA for one of the LTTA posts. I don't see how ASPAP/DSA's institution building and full policy analysis potential can be achieved without at least two LTTA positions.

Special Studies Coordinator (36 PM LTTA): Qualifications: Ph.D. in agricultural economics specializing in farm management, production economics, marketing, agricultural policy analysis, farming systems research, and survey methods. Must have strong microcomputer skills, at least five (preferably ten) years experience in francophone Africa in agricultural development with at least three years experience in farm management, marketing, or farming systems survey research. Responsibilities (by order of priority): 1) (55% LOE) work with 3-4 Rwandan counterparts (A2 - MS level) in designing, implementing, and analyzing 3 policy relevant special studies per year using the "Equipe Mobile"; 2) (15% LOE) assist Rwandan counterparts and Senior Policy Analyst in the analysis and dissemination of results (publications and seminars) on issues of agricultural policy relevance cutting across various special studies and DSA's agricultural statistics data base; 3) (10% LOE) assist Rwandan counterparts in monitoring and continuously upgrading the routine agricultural statistics collection and tabulation system; and 4) (10% LOE) assist DSA management staff in the day-to-day coordination and management of operational components of DSA activities (coordination of field activities, data processing, contracting for special studies, budgeting, publication and documentation, training new staff in computer techniques, etc.)

Senior Policy Analyst (36 PM LTTA): Qualifications: Ph.D. in economics or agricultural economics specializing in agricultural policy analysis, economic analysis, marketing, regional trade, research administration, and farming systems research. Must have strong economic analysis skills, at least ten (preferably fifteen) years experience in economic analysis of the agricultural sector in Africa, with at least five years

experience in francophone Africa, strong experience managing multi-disciplinary research and analysis teams, experienced at developing high level policy dialogue with African policy makers, and good computer skills. Responsibilities (by order of priority): 1) (70% LOE) work with 2- 3 Rwandan counterparts (MS level) and 2-3 DSA research assistants (A2 - A0 level) in developing and executing a LT program of economic and agricultural policy analysis, based on policy dialogue with GOR policy makers, using data generated from special studies and DSA's agricultural statistics data base; 2) (20% LOE) work with Rwandan counterparts (A0 - MS) to upgrade and institutionalize DSA's system of dissemination of economic and policy research results through publications, conferences, and "mini-seminars", 3) (10% LOE) assist DSA management staff in the day-to-day coordination and management of operational components of DSA activities (coordination of field activities, data processing, contracting for special studies, budgeting, publication and documentation, training new staff in computer techniques, etc.)

Social Scientist (24 PM LTTA): Qualifications: Ph.D. in sociology or a related social science specializing in small farmer behavior, sustainable agriculture, social welfare and socio-cultural impact analysis, demography and fertility, nutrition, gender issues, migration, farming systems research, survey methods, and statistical analysis. Must have strong microcomputer skills, at least five (preferably ten) years experience working in francophone Africa, with at least three years experience conducting social science and/or farming systems survey research in Africa. Responsibilities (by order of priority): 1) (65% LOE) work with 3-4 Rwandan counterparts (A1 to MS level) to design, execute, and analyze three policy relevant special studies per year using the "Equipe Mobile"; 2) (15% LOE) assist Rwandan counterparts and Senior Policy Analyst in the analysis and dissemination of results (publications and seminars) on issues of agricultural policy relevance cutting across various special studies and DSA's agricultural statistics data base; 3) (10% LOE) assist Rwandan counterparts in monitoring and continuously upgrading the routine agricultural statistics collection and tabulation system; and 4) (10% LOE) assist DSA management staff in the day-to-day coordination and management of operational components of DSA activities (coordination of field activities, data processing, contracting for special studies, budgeting, publication and documentation, training new staff in computer techniques, etc.)

Short Term Technical Assistance (24 PM STTA): In the attached budget, I assume that this will include approximately 3 PM in computer programming, 3 PM in social science, 3 PM in high level policy analysis (skill level of an Elliot Berg), 3 PM of specialized economic analysis, and the remaining 12 PM to provide specific technical skills for special studies. I assume that 9 PM of the total is local hire. We have had good luck finding local hire skills for social science, special studies design, and survey data processing.

TA staffing alternatives: I have listed the LTTA positions by order of priority. I place social scientist third and at a lower LOE, not because I think the skills are any less important, but because the focus of ASPAP is on economic and agricultural policy analysis. Also, I feel that the ASAP and ASPAP experience demonstrates the importance of agricultural

economics and farm management training for both the routine agricultural statistics system and the economic policy oriented special studies activities.

The Senior Policy Analyst position will be difficult to recruit. I recommend that an ASPAP follow-on have a strong university linkage (either as primary contractor or subcontractor) which, among other things, might facilitate filling this position. At a minimum, this position could be filled by a university professor on sabbatical leave during year one, followed by 3 PM STTA per year for years 2-3. The initial year full-time is essential in order to develop the IT research and analysis system, develop linkages with GOR policy makers, and to initiate the DSA policy analyst team building process. Also, this could be linked to the LT training program proposed below (4 MS degrees) so that the Senior Policy Analyst could also serve as thesis advisor for the four MS trainees in year 2 of the project.

If AID/R feels strongly that it can support only two LTTA positions, the Social Scientist position could possibly be replaced with recurrent STTA, as we do in ASPAP with the 3 PM STTA position of Dan Clay. However, basic special studies design, computer skills, analysis, and general DSA management needs are so great, that it is easy to justify the three LTTA positions. Also, even though the number of primarily sociological studies is far less than the number of economic, farm management, and agricultural policy studies, there is a cross-cutting social science component in all of the policy relevant special studies. Finally, if the Senior Policy Analyst position is difficult to fill, or if a one year sabbatic with two year STTA structure is used, it is absolutely essential that the Social Science LTTA position be extended to 36 PM, rather than 24 PM.

The above task definition and LOE allocations make no allowance for COP administrative responsibilities, which would depend on the final configuration of LTTA posts, the availability of candidates, and their backgrounds. Normally the senior person would be the COP, but this may not be best in the above structure. Although the Senior Policy Analyst could effectively handle high level liaison with GOR policy makers and AID staff, the routine accounting, administrative, and communications responsibilities may better fit with the skills and interests of the other two positions. If the 1 year sabbatic, 2 year STTA option is used, the COP must be one of the other two LTTA positions. Realistically, I think that the COP responsibilities would run about 33 - 50% of LOE, but 50 - 65% during year 1, depending on the training and STTA administration demands. Because of the primary importance of the Special Studies Coordinator, I hate to see so much LOE removed from this post. Also the Special Studies Coordinator must travel quite a lot for field supervision, which is somewhat incompatible with COP responsibilities. This suggests 3 LTTA posts, all 36 PM, with the Social Scientist as COP, with recruitment emphasizing his/her administrative experience, skills, and interests. Having the social scientist, rather than an economist, as COP of a policy analysis project could have some drawbacks, so this option would depend on the background and interests of the individual COP candidate, as well as some possible reorientation of the COP scope of work.

Training needs for an ASPAP/DSA follow-on phase: We have three outstanding candidates (current director Anastase Murekezi, past acting director Laurence Uwamariya, and analyst Pierre Rwalinda) for MS degrees and I hope we will hire an ITS next year who would make a fourth MS candidate. In addition, to four MS programs, I propose two 15 PM BUCEN/ISPC programs (Justin Karangwa and Jean Bosco Sibomana) in survey data processing and survey methods, where we have had great success training A2 mid-level (ATS) staff in the past. In addition, I propose 20 PM of other undefined ST training.

Technical Services, Construction, Commodities and Support of LTTA, and Local Costs: These budget items have been administered by AID/R, mainly by Damascène, so I leave to him the task of projecting their costs for an ASPAP follow-on phase. My very rough guess is \$1.5 million. There is a possibility DSA will need a small office addition (2-3 offices), a few more vehicles, and quite a few more motorcycles (25 - 30 per year) under the new sample design. However, we are in good shape for computers (except they seem to become obsolete so quickly these days), office equipment, and office furniture (except for the new offices).

Financial Management TA and monitoring: While awaiting the Mauritian accounting TA results, I'm unsure how to handle this. My prediction is that the Mauritians, in conjunction with rehabilitation of the pre-Niyoyita computerized accounting system (from the local "Cellule de Gestion") will get things back on track. I assume that future monitoring and maintenance of the local cost accounting will be handled by Alain Joyal (to be hired part-time by AID/R beginning April 1992) and Cellule de Gestion (hired locally under an annual service contract). If these need to be budgeted separately, Damascène should include them either under Technical Services or Local Costs. Given the recent audit report, I am optimistic that this will provide the financial management rigor required. We'll know better in two months. If the next quarter's DSA accounting experience is unfavorable, a local hire, expatriate administrative assistant with accounting experience should be employed. The attached budget can probably cover this if the local hire secretary and administrative assistant positions are combined.

What DSA can expect to accomplish in a follow-on phase?

In addition to ensuring the institutionalization of DSA's economic and agricultural policy analysis capacity, an ASPAP/DSA follow-on phase would provide MINAGRI, the GOR, and AID/R with a wide variety of specific policy studies. Studies already planned or under development for 1992 include: gender issues in farm management and non-farm income generation, adoption and impact of improved agricultural inputs (chemical fertilizer, lime, pesticides, and improved seed), fuel wood use, interregional trade, economics of rice production, and small ruminant production and marketing. This would complement 21 special studies or analyses already completed or in progress on agricultural marketing and consumption, impact of Structural Adjustment on the rural sector, coffee production, sweet potato production and marketing practices, cassava production and marketing practices, informal foreign exchange markets, agroforestry and soil erosion practices, and nutritional surveillance (including maternal

and child health issues) of infants (up to age 5) and nursing women, crop forecasting, "marais" cropping systems, land tenure, non-farm strategies (migration, off-farm employment, family strategies for dealing with land scarcity), fertilizer and pesticide use, and Rwandan border trade. In 1993-94, assuming an ASPAP/DSA follow-on phase, studies are under consideration in the following areas: various commodity studies (vegetables, bananas, minor fruits, tea, maize, etc), adoption of sustainable agricultural production practices, farm labor use, crop budgets, off-farm employment, market efficiency, transportation costs, market information systems, rural credit, employment and income of landless peasants, and migration.

In general, DSA's developing special studies capacity and "Equipe Mobile" will permit the implementation of small studies (single interview of 12-18 households) on an "as-needed" basis with quick turnaround--as little as 4 months, depending on the existing scheduling of the Equipe Mobile and staffing. The Equipe Mobile is already fully scheduled until late 1992 and we are negotiating studies into 1993. Because of overlap and complementarity, many GOR policy analysis needs can be met from analysis of existing data. For example, IBRD's Social Dimensions of Adjustment project needs pre and post SAP impact indicators, 80% of which DSA already collected for the rural sector in its routine agricultural statistics system, the Revenues-Dépenses study, the recent nutritional surveillance survey, and several other special studies. IBRD's future regional trade study will have a large body of existing data from DSA's 1989 regional trade reconnaissance survey, the 1990-present Revenues-Dépenses data base (which estimates regional and international trade in all agricultural commodities), and the coffee subsector study.

The complementarity of the growing number of special studies and our seven year agricultural statistics data base is only beginning to demonstrate its high value. For example, both ASAP and ASPAP has made repeated experiments with different survey methods for crop forecasting, mainly due to donor's needs to plan food aid shipments in a timely manner. For a variety of reasons, DSA has never succeeded in providing the "early warning" indicators required by donors, at least partially because the assumptions of the proposed system are based on a highly skewed Sahelian cropping system, not Rwanda's 2½ season, almost continuous cropping system. We are making a final effort to provide a crop forecasting system, but it is too early to predict if the effort will prove worthwhile, given the unique characteristics of Rwanda's food production system and the dubious merit of crop forecasting on a "seasonal" basis.

In addition, we have had a long standing concern about food security issues, food self-sufficiency, regional food trade and marketing, and the nutritional status of farm households facing different levels of land scarcity. Given our horrendous experience with the 1983-84 ENBC rural survey which directly measured food (and total) consumption, purchases, and incomes of 270 rural households (7 person-years of TA, final report released 3/91, first public seminar in 10/91), DSA has always shied away from a full-blown food consumption survey due to the expense and enormous time required to obtain results. Since 1984, we have monitored monthly food production at the household level, but had no measures of actual

food consumption because we did not measure food purchases. In 1985-86, DSA collaborated with the MSU Food Security project to conduct a series of studies on the bean and sorghum subsector which analyzed production, consumption, marketing, and regional trade. These studies indicated that purchased food and imports played an important role in the rural household food security strategy, but unfortunately addressed only the two most tradable crops, without information of food crops more important to the diet and cash crops (primarily coffee) whose revenue is clearly used to import food. Since 10/89, we have monitored monthly food purchases and sales at the farm gate of all agricultural crops. Analysis is in progress and we are optimistic that this will unravel the mystery of how Rwandans feed themselves and help formulate strategies for ensuring future food security, probably by expanding regional trade in food products, rather than a misplaced emphasis in food self-sufficiency in the face of small agricultural technology development.

Our farm marketing research will also give us a better insight into household level food consumption, because for the first time we will have data on net food purchases (food purchases minus sales, net of gifts) as well as production. However, even this won't tell us enough about the nutritional status of individual household members, given intra-household food distribution inequities. Also, because we don't measure actual food preparation, consumption, number of visitors fed, etc. and due to problems concerning the proportion of calories consumed as beer, we don't have the accuracy of a full-blown nutrition survey. Thus we have recently begun a nutritional surveillance survey for UNICEF focusing on the most vulnerable individuals--nursing mothers and infants up to age 5. I have been amazed by the success of this study. It began as single national survey to be conducted twice. Given its relative simplicity (arm circumferences, height, weight, and a simple questionnaire on demographics, health issues, and environment factors), we have decided to conduct the survey on a continuous basis, rotating through a quarter of the sample monthly, thus surveying 7500 households annually (actually only 4500 of these households have nursing mothers or infants under age 5). The added cost of continuous collection and increasing the sample was small, as we can use our 78 base enumerators, rather than the more expensive Equipe Mobile. In addition it provides two very important advantages: 1) we now have seasonal measures of nutritional status, 2) we have a very direct measure of nutritional shortfalls among the most vulnerable groups, 3) we have a reasonably quick measure of food aid needs providing both an "early warning" system (in combination with our monthly crop production data--both these data sets are small and can be tabulated within 6-8 weeks of collection), 4) we have a more cost effective, far quicker mechanism for nutritional surveillance than an EBNC type consumption survey, and 5) we have a very important set of information to complement other special studies which will allow us to determine the nutritional impact of rural household strategies for farm management, off-farm employment, marketing and food security, and adoption of new technologies.

When we first began negotiations with UNICEF on a nutrition survey, none of us foresaw how powerful and useful this survey would be when complemented with DSA's other special studies and seven year data base. It will clearly play an important role in monitoring Rwandan agricultural

development, the impact of a wide variety of development efforts--including structural adjustment, and programming food aid and focusing its distribution. However, this study is quite vulnerable to ASPAP/DSA's continuation because at present it is fully dependent on a very small number of key DSA staff and TA.

Where do we go from here?

I am disappointed that an ASPAP evaluation will not take place in January, as I understood would occur as recently as last month. An evaluation would have been particularly useful now because time is running out for designing and undertaking the necessary paperwork for a follow-on phase. An evaluation team could have provided an objective recommendation about ASPAP/DSA's accomplishments and the need for continuation.

I am also concerned about the recent decision to provide only a single TA position from a centrally funded project such as ADS or Prism. No one at the mission has any information on Prism and the only available information document on ADS had not yet been widely circulated until recently. My reading of the ADS project description convinces me that it is not the appropriate project for providing the type of institution building LTTA that DSA requires. Although I understand that ADS may be reorganized in the near future, to date it has served as a source of technicians in a wide variety of fields--environmental, behavioral science, health, technology transfer, education, transport, project evaluation, education, economics, and agriculture--but with at most a tiny minority in fields closely linked to economic and agricultural policy analysis. Even more importantly half these technicians have been placed in REDSO's and the vast majority of the remainder in AID Missions. There is little indication of any project implementation or institution building orientation among these ADS technicians.

It seems absolutely essential that any DSA TA have primarily an institution building focus. In addition, the LTTA must have strong backstopping by an organization experienced and interested in institution building, which ADS seems to lack. Lacking any information on Prism, I don't know about its experience and capability in agricultural policy analysis and institution building. Perhaps other centrally funded projects could provide the necessary backstopping and technical expertise--ASPAP comes to mind, but I expect that like most centrally funded projects their orientation is for STTA, but not for LTTA or LTTA backstopping. It also appears to me that the next phase of ASPAP needs a close university linkage in order to ensure the development of necessary economic analysis skills, to fill the Senior Policy Analyst position, and to coordinate the academic programs and theses of the 4 MS programs. I don't know whether a centrally funded project can provide this linkage.

Given the limited time remaining and the importance of the issue, I recommend that a TDY be scheduled in the next two months to conduct a mini-evaluation of ASPAP/DSA and a recommendation about a follow-on phase. This TDY would not be intended to serve as a full-blown design

team, nor replace the August evaluation (although I'd prefer the August evaluation now), but simply to provide an objective view of where we should go before it is too late. The APAP project could probably provide a highly qualified agricultural policy specialist on short notice, and other appropriate IQC's undoubtedly exist. If this is not feasible by the end of February, then perhaps you could add this task to Al Smith's January scope of work.

It is difficult to avoid the conclusion that DSA merits a full-blown follow-on project developed by an outside design team. Unfortunately, time has run out to permit this before the 9/30/91 PACD without working around the clock and possibly breaking a few backs in the process. Even more importantly, a rush job risks being done poorly. Thus I recommend that ASPAP be extended for another "bridging year" in order to permit sufficient time to design a follow-on project.

Only two weeks ago, I learned from Damascène that there is an unexpected \$188,000 in ASPAP local cost funds that will go unused by PACD at current spending rates. I suspect that the amount of available local cost funds is actually 30-50% higher than this. Thus it appears that there are enough local cost funds for DSA to continue another year beyond 9/30/91. If a "bridging year" decision is made soon, I am reasonably certain that I can reorganize the ASPAP/DAI budget to allocate sufficient funds to continue the Special Studies Coordinator position for another year. With local costs and this single, critical LTTA position covered, DSA could function during the "bridging year". I'd feel far better if the Senior Policy Analyst position could be covered as well, but the current ASPAP/DAI budget can't squeeze that out, except perhaps for some STTA coverage. Also, continuity of the Special Studies Coordinator position is far more critical and some of the analytical tasks could be handled by that position, at least sufficiently to keep the returning LT trainees occupied with special studies analyses.

ASPAP/DSA and AID/R's self-interest: I think most people would agree that the US has a strong comparative advantage in providing technical assistance for economic and agricultural policy analysis, as well as survey methods and farm management research. Thus we can expect good "returns" from investing development funds in DSA. These "returns" will be in terms of institution building, economic and agricultural policy analysis skills, survey methods, computer skills, better knowledge of the rural sector and small farmer behavior, accurate and extensive monitoring of rural development and human level impact, and direct measures of adoption of new technologies and practices promoted in other projects.

While DSA should not be the major focus of USAID/Rwanda's agricultural portfolio, we have a comparative advantage and high probability of success at DSA which suggests it should be an important component. In addition, DSA can provide objective information for monitoring the impact of USAID's other projects in a wide range of areas--adoption of NRM practices, employment, nutritional surveillance, health, regional trade and marketing, technology adoption, input use, migration, income, food aid needs, and food security. The recent CPSP exercise indicated that DSA would be the primary source of impact indicators for most of USAID's projects, and it underestimated DSA's monitoring and evaluation capacity.

In other areas where DSA was not listed at the impact indicator source, the CPSP placed much emphasis on AID projects providing their own project evaluation indicators. Not only is it preferable to separate the evaluation responsibility from the project being evaluated, but NRMP, CIP, and CIAT would undoubtedly prefer to leave the survey mechanics and evaluation tasks to others. Further, much impact assessment is already routinely provided by DSA's national farm sample (not just in specific project areas), providing a base for comparison outside a projects' impact area. In a case where greater detail is required, the marginal cost of analysis, an add-on questionnaire, or even a special study is minimal.

Finally, I feel that DSA is a showcase project for AID/R. Compared to most African countries, DSA's agricultural statistics system is without equal. Its special studies capacity, still in its early development stage, already surpasses anyone's expectations, and never fails to impress consultants and visitors experienced in agricultural statistics systems in the third world. Where else in Africa can a sample of 1248 farm households, covering 10,000 square miles, be interviewed in six weeks, the data entered into a microcomputer, and SPSS tables completed within another 6 weeks? DSA also provides AID with an important institution building model for UNR and ISAR, where institution building to date has had a very low payoff. Finally, given donor's heavy investment in Structural Adjustment, AID's investment in DSA is critical as it is the only serious source for measuring SAP's impact on the rural economy, which employs 94% of Rwandans.

I am utterly amazed how donors continue to work almost entirely through MINPLAN for SAP. The experiences of ASPAP, ASAP, and PRIME suggest that MINIPLAN will have great difficulty monitoring and evaluating the impact of SAP. All we have to show for a seven year investment by ASAP, PRIME, and ASPAP of 12.6 person-years of TA and probably \$4 million (TA, training, equipment, and local costs) is a 7-9 year old ENBC of 270 rural households (and 300 urban), and virtually no institution building impact in terms of survey methods, computer skills, and economic analysis capacity. This is approximately the same level of resources expended on DSA during the ASAP phase--but with much higher TA and LT training--and there was quite a lot to show for the ASAP investment. Now, near the end of ASPAP, DSA has a staff of 140 including 15 skilled staff at the A2 - MS level, enormous data collection and special studies capacity, outstanding computer skills, and great potential for developing economic analysis capacity--once the 6 LT trainees return.

In my view, DSA has successfully completed stage 2 of a 3 stage institution building process. USAID's investment in stage 3 of this process will not only be cheaper and shorter than stages 1 and 2, but will have a higher payoff. Thus I feel it is in USAID's self-interest to support DSA's stage 3 development. There are plenty of alternative stage 1 and stage 2 investments, which USAID should make, but many of which have a high risk of failure. However, the overall portfolio would profit from DSA's stage 3 investment, not only from its higher probability of success, but complementarity from DSA's unique ability to provide human level impact indicators of USAID's other stage 1 and stage 2 investments.