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Rwanda Agriculture Surveys and Policy Analysis Project
Four-year Training Implementation Plan

Introduction

The Rwanda Agriculture Surveys and Policy Analysis Project (ASPAP) is a four-year project sponsored jointly by USAID and the government of Rwanda and implemented with assistance from Development Alternatives Incorporated (DAI), the principal contractor, and subcontractors Michigan State University and the University of Pittsburgh. The ultimate goal of ASPAP is to develop a self-sustaining institutional capability within the Rwandan government to collect, process and analyze information on the country's rural economy, as well as to use this information base to improve planning and policy formulation as it relates to the farms, families and institutions that comprise rural life in Rwanda.

A diverse program of training, research and statistical activities has been designed with the intention and promise of strengthening the fundamental skills and knowledge base of three important governmental statistics/planning offices:

-the Agricultural Surveys and Statistical Service (Service des Enquêtes et Statistiques Agricoles--SESA);

-the Direction Générale of Statistics of the Ministry of Planning (MINIPLAN);

-the Direction Générale of Economic Policy of the Ministry of Finance and Economy (MINIFINECO).

Though the goal of achieving self-sufficiency is of paramount importance to this project, building effective working relationships among these three offices, as well as strong institutional linkages between these offices and Michigan State University, are also viewed as highly desirable project objectives. Toward these ends ASPAP supports a comprehensive training program that includes long-term, master's-level training in the U.S., short-term training in the U.S. and third-country sites, in-country seminars and workshops and a continuing program of on-the-job training by resident advisors and short-term consultants. The following paragraphs describe the principal elements of this comprehensive training program, as currently proposed, as well as a suggested multi-year calender for its implementation.

Current SESA Personnel

The professional staff at SESA is currently comprised of 5 persons with varying degrees of formal training and work experience. Shown below is a summary table highlighting the backgrounds and personal training interests of these staff members. In general, we can say that the Ministry of Agriculture has been reasonably successful at appointing staff with the appropriate background training for the kinds of work carried out at SESA, namely, agriculture, statistics and social science. With the exception of Jean Marie Vianney Sehene, who was given specialized training in computer programming during the first agricultural survey project, members of the SESA staff have received little advanced training in the specialty areas most needed to accomplish their collective mission. For this reason, the guiding theme of ASPAP has been to build on existing resources by providing training in those specialty areas.

Summary of SESA Professional Staff Backgrounds and Training Interests

Name	Position	Current level of Training	Years of Service	Interests for Future Training
Serge Rwamasirabo	Director	A-0, Ingenieur Agronome	8 years	Agricultural Economic
Jean Leonard Ngirumwami	Director (interim)	A-0, Ingenieur Agronome	3 years	Agricultural Economic
Theobald Kampayana	Analyst	A-1, Ingenieur Science Sociale	1 years	Rural Sociology
Jean Marie Vianney Sehene	Programmer	A-0, Ingenieur Statistique + 18 mos Data Proc.	7 years	Computer Center Management
Jean Kayitsinga	Statistician	A-0, Ingenieur Statistique	3 mos.	Statistics
Emmanuel Shingiro	Statistician	A-1, en statistique	3 mos.	Data Processing, Statistics
Octavien Ngarambe	Analyst	A-0, Ingenieur Agronome	6 mos.	Agricultural Economic
Hyacinthe Fabiola	Analyst	A-1, Agriculture (3 ans Algerie)	6 years	Agricultural Econ., Data processing, English
Gedeon Mudacumura	National Supervisor	Secondaire	6 years	Data Processing, Agriculture

Long-term Training

Long-term training is here defined to include programs of nine months or longer, in other words, those programs which must be precisely scheduled and neatly integrated into the broader project work plan. Naturally, SESA's ongoing program of survey and analysis activities cannot depend on contributions from those who are away on training, and must therefore be scheduled with the long-term training plan in mind. In addition, these long-term programs most often coincide with the academic year, and are generally preceded by a long and selective admission process, so there is much less flexibility in the timing of such programs when compared to programs of short duration.

The long-term training plan consists of 10 specialized programs of various types and involving several different institutions. The table shown below provides a broad picture of how this training program will be implemented. In short, 6 of the 10

LONG-TERM TRAINING CALENDER

Program	Name	Inst	Level	Resp	1987 1 2 3 4	1988 1 2 3 4	1989 1 2 3 4	1990 1 2 3 4	199 1 2
SESA									
1. Agro-économie	Serge Rwamasirabo	MSU	Master's	MSU	E F	F F F F	F T T		
2. Agro-économie	Jean Leonard Ngirumwami	MSU	Master's	MSU			E F	F F F F	F T
3. Soc. rurale	Theobald Kampayana	MSU	Master's	MSU		E F	F F F F	F T T	
4. Statistique	Jean Kayitsinga	ISPC/?	Master's	MSU		E F	F F F F	F T T	
5. Informatique	Gédéon Mudacumura	?	Certif.	DAI		F	F F F		
6. Informatique	Emmanuel Shingiro	?	Certif.	DAI				F F F	
MINIPLAN									
7. Statistique	Samuel Munyaneza	ISPC/?	Master's	MSU		E F	F F F F	F T T	
8. Informatique	Jean Marie Hakizimana	ISPC/?	Master's	MSU			E F	F F F F	F T
MINIFINECO									
9. Stat. Econ.	Samuel Mugesera	ISPC/GWU	Master's	MSU		E F	F F F F	F T T	
10. Economie	Aimabla Uwizeye	MSU	Master's	MSU		E F	F F F F	F T T	

programs will be used to train staff at SESA. The remaining four programs will be divided equally between MINIPLAN and MINIFINECO. Four SESA staff will receive master's-level training, 2 in agricultural economics and one each in rural sociology and statistics. Two additional SESA staff will be trained in data processing in non-degree francophone programs in the Cote d'Ivoire, Canada, France or another third-country site. The project will provide the Ministry of Planning with two master's programs, one in data processing and one in statistics. MINIFINECO has nominated two of its staff for master's training in data processing and economic statistics.

Michigan State University is the institution responsible for coordinating the eight master's-level training programs. Several of these programs will be completed at MSU, notably those in agricultural economics, economics, and rural sociology. Others will be placed at U.S. institutions yet to be named. The two non-degree programs in data processing will be coordinated by DAI. An institutional agreement exists between Michigan State University and North Carolina A & T, an Historically Black University (HBCU). In accordance with AID policy, every effort will be made to profit from this inter-university agreement and arrange for a portion of the long- and/or short-term training to take place at North Carolina A & T.

The program areas outlined above (e.g., agricultural economics, statistics) are relatively broad fields of study, and must be pared down and defined in more specific terms for each of the 10 long-term programs. It is essential that each of these programs be clearly defined and oriented toward the specific interests of the students as well as the needs of their respective ministries. Described below are some of the particular characteristics of these programs.

1. Agricultural Economics. There are two agricultural economics programs in the project training plan, both to be completed at Michigan State University. The first of these positions is now occupied by Serge Rwamasirabo, who began his program last June with several months of English language training at the Economics Institute in Boulder, Colorado. Serge is currently in East Lansing and has started off his first term at MSU with courses in statistics, mathematics and English -- enabling him to continue building on the fundamentals before starting courses in substantive areas, which generally require more advanced reading and writing skills.

   The program Serge will undertake includes a wide range of agricultural economics and other social science courses (both required and elective) with an emphasis toward international agricultural development. At this stage, Serge has expressed

an interest in doing his master's thesis in the area of livestock (production, marketing, policy). In the coming months his MSU advisors (including project advisors Mike Weber and Dan Clay) will be encouraging him to begin formalizing some of his ideas into a thesis proposal. It is expected that Serge will complete his course work by winter term (March 1989) and wrap up his thesis 4-6 months later. It is recommended that Serge finish his thesis before leaving the U.S., or, if he must return to the project early, that he be permitted to work exclusively on his thesis until it has been completed.

The second program in agricultural economics will be occupied by the current acting SESA director, Jean Leonard Ngirumwami. This program is scheduled to begin in mid-1989, once Serge has completed his program and returned to his post on the project. Jean Leonard will begin with three months of intensive English language training at the Economics Institute in Boulder. Statistics, computer processing and other fundamentals of agricultural economics will be emphasized in this program. Jean Leonard's current study interests include marketing and pricing policy -- areas that could easily become the focus of later course and thesis work.

2. Rural Sociology. The master's-level training program in rural sociology will be in the Department of Sociology at Michigan State University. The candidate selected for this program is SESA staff member Théobald Kampayana. Théobald's undergraduate training is in social science, and he has gained valuable work experience at SESA collaborating on the recent beans/sorghum transactions survey. He will begin his program in June of 1988 with three months of intensive English language training at Boulder. His academic training will begin at MSU in September and will have a strong emphasis in statistics and quantitative research methods. Substantive areas of concentration will likely include international development, rural social organization and human ecology. Course work in related disciplines such as agricultural economics, geography and resource development will also be encouraged.

Théobald's thesis topic will be firmed up once he gets into the program. However, data from the SESA/World Bank survey of land tenure in Rwanda is expected to be available toward the end of 1988 -- around the time Théobald will need to begin

formulating ideas for thesis work. Before beginning his training program, it will be essential that Théobald take an active role in the development and implementation of this land tenure survey.

3. Statistics. There are two master's-level training programs in statistics, one will be completed by SESA staff member Jean Kayitsinga and the other by Samuel Munyaneza at the Ministry of Planning. Both of these academic programs are scheduled to begin in September 1988, preceded by 3 months of intensive English language training at the American Language Institute at Georgetown University (ALIGU). The objective of these two programs is to provide fundamental statistics training with special attention to survey statistics.

The particular institutional location of these two programs has not yet been determined. However, it has been agreed that the kinds of statistical programs typically found at U.S. universities, those emphasizing "pure" statistics, will not be appropriate. A special effort will be made to arrange programs with an applied orientation that will better prepare these candidates for the kinds of statistical work they will be engaged in once they return to their respective ministries. The International Statistical Programs Center (ISPC) offers a very suitable one-year program in survey statistics, yet it does not lead to a master's degree. One interesting possibility will be to arrange for the candidates to take the one-year ISPC program then feed into the master's program at a U.S. university for nine months or so to complete the degree.

Topics such as survey sampling and variance estimation procedures will form the core of these programs. It will also be important for Jean and Samuel to obtain a good working knowledge of micro computers and how they can be used to facilitate the kinds of tasks they will face once they return. If their programs require the preparation of a master's thesis, then it is strongly recommended that any such thesis work fall under the general heading of "methods for maintaining reasonable statistical standards in developing countries without making impossible demands on field operations, data processing and data use."

4. Data processing. The term "data processing" rather than "computer science" is used here for a specific reason. Conventional computer science programs at U.S. universities typically emphasize structural programming languages, rather than the kinds of applied data processing techniques and packaged software programs that will be needed for processing survey data in Rwanda.

There are three data processing training programs to be implemented under ASPAP -- one master's-level program in the U.S. and two other one-year non-degree programs. The master's degree program will be filled by MINIPLAN candidate Jean Marie Hakizimana who will begin in June of 1989 with three months of English language training at the American Language Institute at Georgetown University (ALIGU). A special effort will be made to find a very applied program appropriate to the particular survey processing demands he will later encounter at MINIPLAN. One such program is offered by ISPC in Washington, D.C. However, unlike some other ISPC programs, the data processing curriculum is of one year duration and does not lead to a master's degree. Similar to the combined ISPC/University program in statistics, an effort will be made to work with the computer science department either at MSU or elsewhere on setting up a program that begins with the ISPC program and later on feeds into a university master's program.

The need to develop additional data processing skills in SESA is also met by the ASPAP training plan. SESA candidates Gédéon Mudacumura and Emmanuel Shingiro will be sent for one-year training programs in third-country sites. Programs in Abidjan, France, Canada, as well as other francophone countries will be evaluated as possibilities for these two candidates. The objective will be to set up these programs so that they can be executed quickly and without the need for prior training in English. The two programs will be run back-to-back and each for one year, the first beginning in September, 1988. Again, the emphasis of this training in data processing will be on the applied techniques of survey data entry, editing and tabulation.

5. Economics. The Director General of Economic Policy at MINIFINECO has requested that one of his staff members, Aimabla Uwizeye, be given master's-level training in economics. It is recommended that Aimabla's economics program be set up in the

Department of Economics at Michigan State University. The emphasis in this program will be on the fundamentals of economic theory and methods as applied to economies of the developing world.

Beginning in June, 1988, Aimabla will receive three months of English language training at the Economics Institute at Boulder, Colorado. His course work at MSU will begin in September. As with all of the social science training programs funded by ASPAP, Aimabla's economics training will include a heavy dose of statistics, quantitative research methods, and microcomputer processing. For his master's thesis he will be encouraged to analyze data collected by MINIFINECO, in preparation for the kinds of work that will be expected of him once he returns. This program will be enhanced by the established institutional linkage that MINIFINECO has developed with Michigan State University through the USAID-funded PRIME project.

6. Economic statistics. A master's-level training program for a second candidate from MINIFINECO will be financed by the project. The Director General has proposed Samuel Mugesera for training in economic statistics. The program selected is a combined master's program in social and economic statistics at the International Statistical Programs Center and George Washington University. This program is designed to give those engaged in official statistical activities knowledge of the theories, concepts, principles and literature of social and economic statistics. The development of strong microcomputer skills is also a major objective of the program. Samuel will begin in June, 1988 with three months of English language training at ALIGU. Substantive course work will begin at ISPC in September.

English Language Training

Before beginning academic training in the U.S., it will be necessary for each candidate to achieve an acceptable level of proficiency in English. Reading, writing and listening skills are of particular importance to those candidates who will be following programs in economics, agricultural economics and rural sociology. To obtain an objective indicator of English language skills, all of the candidates were asked to be tested at the USIS English Training Center (ETC) in Kigali. All of the candidates' scores on the TOEFL (Test of English as a Foreign Language) fell in the 400-500 range. Acceptable scores for University study in the U.S. are generally 550 or above. ETC observes that students

at the 450 level can improve their English between 25 and 50 points per month of intensive (5 hours per day) language training in the ETC program. Arguably, English proficiency will improve even more quickly for students placed in intensive programs in the U.S., where they are totally immersed in the language both day and night.

It is recommended that all candidates be trained for a minimum of three months in the U.S. at either the Economics Institute at Boulder, Colorado, or at the American Language Institute at Georgetown University (ALIGU), prior to beginning their academic programs. Both of these programs are well known for their success at preparing foreign students for academic programs in the U.S. Additionally, students at the Economics Institute at Boulder can begin to sharpen their academic skills by taking preparatory courses in statistics, economics, sociology and other subject matter areas.

However, in addition to their U.S.-based English language training, all candidates will be obliged to attend one month of intensive English training in Kigali. Arrangements have been made with the English Training Center to provide a special intensive training program during the month of May, 1988. This program will be attended on a full-time basis by all 5 candidates scheduled to begin their long-term training in 1988 (Théobald Kampayana and Jean Kayitsinga from SESA, Samuel Munyaneza from MINIPLAN, and both Samuel Mugesera and Aimabla Uwizeye from MINIFINECO). By waiting until May and then giving candidates four months of intensive English training (both in Rwanda and in the U.S.), all three ministries can keep their staff assigned to their current activities through the month of April -- this is particularly important for SESA staff given their busy work schedule during the first quarter of 1988.

Summer Programs

Summer programs represent a unique opportunity to introduce specialized training for candidates on long-term programs in the U.S. Although many of the master's programs will continue through the summer, often the course loads will be lighter and can accommodate a special workshop, seminar or short-course that will give candidates particular skills that cannot be acquired from the basic list of course offerings. A special effort will be made to capitalize on the summer term and the slack periods between terms by organizing applied training in such areas as data analysis techniques, computer techniques, and project management. Special study tours, off-campus workshops, seminars and other such programs of short duration will also be considered during these periods.

Short-Term Training

A study of the short-term training needs of SESA, MINIPLAN and MINIFINECO has moved in many different directions and has been the subject of lengthy discussion by those individuals responsible for setting up the overall training plan. Particularly during the early years of the project, a large segment of the professional staff in these three offices will be away for long-term training. Those who are not on long-term training will be responsible for the many special activities of the project as well as the day-to-day operations of their offices. Where ASPAP must be innovative is in finding ways in which short-term training activities can be built into the specific work plans of these three ministries and allow their staff members to develop skills while on the job.

The first step in this process was to sketch out some of the central subject matter areas in which the participating ministries believed some degree of short-term training would be beneficial. The table below lists the major subject matter areas and their sub-categories from which, over time, the short-term training program will be developed. These areas emphasize the fundamental skills of any statistical or planning office, notably, data collection, processing, analysis, as well as management and planning. In addition to these generic training areas are a number of more specialized training areas such as computer networks, aerial photography, and the policy analysis program offered by the Harvard University project in Nairobi.

Possibilities for Short-term Training in the U.S., in Rwanda, and in Third-country Sites

Training Area	Suggested Institution
Management	
-Project management	University of Pittsburgh
-Personnel management	"
-Contract management	
-Computer center management study tour	Census Bureau
-Budgeting for projects	
-Project documentation	
-Project evaluation	
Planning	
-Agricultural planning	USDA
-Data needs for ag planning	"

Statistics	
-Concepts in survey sampling	Census Bureau
Data Processing	
-Concepts in data processing	Project Staff
-FOCUS/data management	"
-FOCUS/data entry	"
-SPSS/general concepts	"
-SPSS/data management	"
-SPSS/data entry	"
-SPSS/statistical analysis	"
-SPSS/graphics	"
-Thematic Mapping	"
-LOTUS, etc.	"
-dBASE, etc.	"
-Project management software	"
-Computer networks	Consultant
-Hardware maintenance	Consultant
Data Collection	
-Questionnaire design	Census Bureau
-Developing edit specifications	"
-Operational and quality control	"
Data Analysis	
-Descriptive analysis	MSU/Project staff
-Explanatory analysis	"
-Reading and designing tables	"
-Multivariate analysis	"
-Specialized economic analyses	"
-Aerial photo interpretation	Consultant
Policy Analysis	
Agricultural policy analysis	Harvard Proj. (Nairobi)
Agriculture	
-Farm management	MSU
-Agricultural policy analysis	"
Accounting	
-Computerized systems	
-Basic principles	
Other	
-English	ETC
-Typing	Local Firm

Also listed in this table are some suggested sources for the various training areas (e.g., University of Pittsburgh, Census Bureau, USDA). These sources are only suggestive, and they can be used in many different ways. ASPAP will be as flexible as possible in its use of short-term training funds, envisioning such training in the form of in-country workshops and seminars, formal training programs at local and foreign institutions, as well as special study-tours in the U.S. and third-country sites.

Each year, during the preparation of the annual work plans, an effort will be made to specify those particular short-term training programs that can be scheduled around and between the major activities of the work plan. The work plan for the first year (1988) includes the following short-term training activities:

- Study tours on policy and management at University of Pittsburgh. (Two persons)

- SPSS Training at IAMSEA and UNR

- Policy Seminars in Rwanda

  1. Sorghum seminar in March/April
  2. "Harmonization" of data collection activities
  3. Farm constraints/agricultural policy

- Study and seminar in Rwanda on contracts and grants

- HIID seminar in Nairobi on food and agricultural policy analysis