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ANALYTICAL PERFORMANCE AND CAPABILITIES OF
MALAGASY INSTITUTIONS IN THE AGRICULTURAL SECTOR

by
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In the framework of Madagascar Agricultural Rehabilitation Support (MARS) project, a team was sent to Madagascar to assess the data collection, processing, and analysis capabilities of some institutions for development needs (see Appendix A). The team is composed of two technicians from the Bureau of the Census (BUCEN) and two from the U.S. Department of Agriculture (USDA) under contractual agreements. Originally, the scope of work of the author was stated as follows:

- "1. An analysis of the data gathering capacity present in the government sector with regards to use in Automatic Data Processing (ADP).
2. A study of the feasibility of using the results of the agricultural census for ADP.
3. An analysis of various computer hardware and software.

systems which would be appropriate to the country and specific recommendations as to the possible system choices."

The BUCRN'S technicians arrived in Madagascar four days earlier than the USDA's. Upon a meeting of all members of the team on February 25, 1985, a new scope of work was developed, and tasks were assigned to each team member according to his/her skills (see Appendix B). For the USDA team, the scope of work reads "Assessment of the analytical performance and capabilities of various institutions. This would involve an inventory of the relevant personnel and the listing of their education and skill levels." The skills and emphasis designated for the author of this report are cited below:

"Evaluation of computer modeling and other software of use in analysis, review of existing statistical methods, and evaluation of potential analytical use of data bases."

This revised scope of work prepared by C.A. Pryor of REDSO/ESA has received approval from the AID resident representative in Madagascar Mr. Sam Rea. Thus, this report will discuss availability of data in the agricultural sector, data users and their analytical skills and methods, and potential use of data bases. Also, comments and recommendations will be given.

I. Availability of Data

Data are not always available for certain needs and on a timely basis. The following sources are cited as generators of agricultural and related field data. The data are not evaluated in terms of soundness of survey methodology and quality of data. This constitutes the subject of other members of the team.

A. Sources of Data :

1. Ministry of Agricultural Production and Agrarian Reform

(MPARA).

MPARA is the main source of agricultural statistics on

crops. The service of Methodology and Processing of Statistical Data (SMTIS) in the Directorate of Programmation (DP) and the Division of Statistical Data Collection (DCDS) in the Directorate of Agricultural Extension (DVA) play a crucial role in producing agricultural data. The questionnaires prepared by SMTIS are sent to the extension agents of DVA in the field. These agents have direct contacts with peasants. The filled in questionnaires are returned in duplicate, one copy to the central office of DVA and the other to SMTIS. Data are processed at DVA and published as provisional data whereas those processed at SMTIS are published as official statistics. A thick annual report was published by DVA on rough paper with several statistical tables. When request was made for one copy, it was not given on the ground that data are provisional.

The information received from the field are:

- progress of cultivation works on some crops in terms of area planted on a quarterly basis,
- utilization of agricultural inputs by circonscription on a quarterly basis,
- official distribution of local and imported rice by zone,
- prices of agricultural commodities at the market and at

the farm gate on a weekly basis,

- forecasting of production at the circonscription level,
- areas cultivated, production and agricultural credit on an annual basis.

Thus the main components of reported data are areas planted, production, yield, and forecasted production of various crops, prices of agricultural products at the market and at the farm gate, and use of fertilizers and pesticides. The latest statistics bulletin put out by SMTIS was reported to be for 1983, but it was not made available because the chief of the service was not in the office when SMTIS was contacted on two occasions.

SMTIS is also a responsible agency which is conducting the national agricultural census with financial and technical support from UNDP. The results are expected to be out in October 1985. Data to be available concern:

- structure of agricultural households,
- farm animals
- farm labor,
- farm materials,

- land use,
- crops produced,
- fertilizers and pesticides uses,
- yield of crops,
- loss at harvest,
- structure of large agricultural enterprises;
 - . for crops
 - . for livestock,
 - . cost of production.

To satisfy its needs for information on rice, the service of Rice Sector Coordination (SCSR) of DP carried out a survey on rice consumption and household budgets with technical assistance from SMTIS under project AIRD. That survey was concentrated in urban areas where four rounds of interviews have taken place (December 1982, April 1983, August 1983, November 1984), and only one round was conducted in rural areas (July-August 1983). The survey was conducted in 7 big cities on a sample of 720 households and in 66 rural fokotany on a sample of 660 households. Information was gathered on:

- characteristics of households,
- rice purchase and prices

- rice consumption,
- rice production for auto-consumption,
- expenditures on food and non-food.

Conducting the survey in several rounds permits the estimation of changes which occurred. In addition to the above information, the survey in rural areas covered rice marketing and the cost of producing rice.

For costs of production of all agricultural products, the estimation was done at the Division of Rural Economy (DER) of DVA.

2. Ministry of Animal Production, Water and Forestry (MPAEF).

The service of studies of Animal Production (SEPA) in the Directorate of Livestock (DL) is in charge of producing current statistics and conducting survey and research on livestock. The latest published information was in 1983 and gives statistics on:

- number of various animals by Faritan,
- number of animals for rent,
- principal diseases of animals and actions taken,
- number of animals slaughtered,
- slaughter houses
- animal export

SEPA is conducting a survey of livestock with technical help from a firm SEDES (Societe' des Etude, Sur le D'veloppement Economique et Social). The Chief of SEPA failed to provide techniques used in the survey and referred all

technical matters to SEDES whose responsible technicians were out of town. However, he gave the information on the collected data and furnished a set of questionnaires which pertain rather to a vaccination campaign on livestock. The livestock census registers:

- Characteristics of animal owners,
- number of animals (cattle, pork, sheep, goats, chicken, etc),
- number of births, deaths, affected by diseases, vaccinated.

At the same Ministry MPAEF, the Service of Studies Forest Production (SEPF) in the Directorate of Water and Forestry (DEF) is responsible for collection of statistics on fish and forest production. Even though tables were not made available, the chief of the SEPF claimed that questionnaires were sent regularly to the forestry agents in the field to report on area

of reforestation, peasants served by extension, forest products gathered by forest enterprises, peasants receiving extension support on fish ponds, fish catch, etc.

3. National Institute of Statistics and Economic Research
(INSRE).

INSRE should be the main agency which provides all statistical data in the country. However, it does not live up to its mandate. It has a double role as collector and publisher of primary data and as publisher of secondary data.

INSRE collects information from different agencies of the government and publishes it in the monthly bulletin of statistics (Bulletin Mensuel de Statistique). The latest edition includes no. 324 through no. 329 for September 1982

through February 1983. INSRE also gathers declarations from the customs service and publishes the information on foreign trade. The periodical entitled Commerce Extérieur de Madagascar was published in 1980. Another publication on the economy, Situation Economique, was put out on January 1, 1983 and covered economic data to 1981.

INSRE conducts a price survey on a monthly basis in Antananarivo and Mahajunga and plans to expand it to all the provinces. It calculates price indices from the results of the survey. It also conducts an industrial survey on an annual basis. The following information is gathered:

- labor source,
- salaries and benefits,
- purchases and sales,
- inventories of stocks,

- amount invested,
- consumption of electricity,
- taxes and finance expenses,
- depreciation.

The results of the last industrial census (1978/79) were published.

INSRE has undertaken recently two major censuses. A population census was taken in 1975. The results were published, and analyzed as a series of studies. The population data were given for urban and rural areas with all the socio-economic characteristics. A household budget survey was conducted in central urban areas in 1977 - 78 and in secondary urban and rural areas in 1980. With financial problems, the survey in rural areas was stopped after 6 months whereas that in central urban areas proceeded on schedule.

The problem with INSRE is to its inability process the data and publish the results. So far, only preliminary results were published in rudimentary form for urban areas. For rural areas, all the information has not come in from some parts of the country. Thus there is no plan when the results will come

out. The final results of central urban areas are expected to be out by July 1985. The data cover the following information:

- characteristics of household
- inventory of household assets
- expenditures on food and non-food
- income
- non-monetary gifts and auto-production.

B. COMMENTS

There seems to be no comprehensive data on nutrition status, such as per capita nutrient intake, coverage of minimum nutrient requirements, shortage (under-nutrition or malnutrition) in certain zones, in certain target groups, or in certain socio-economic groups. With the exception of own-price elasticity and income elasticity for rice estimated by MPARA with assistance from AIRD, there are no own-price, income, and cross-price elasticities for food commodities and non-food items. Further analyses of the household budget survey undertaken by INSRE would provide the above information as, at the present time, INSRE has no plans for such analyses.

There is no data on national accounts. This information is very important in the planning process for the country and in the estimation of the growth of the economy.

Nevertheless, there are a lot of data, especially in the agricultural sector, which are not made available or made known to users or which come out late. Several factors can contribute to this problem with information flow. An obvious factor is a lack of means to reproduce data on a timely basis: calculators, typewriters, transportation, papers, reproducing machine (ronco machine), etc. Another factor is that the government staff is not encouraged to produce deliverables. Since they are in the civil service, they are paid by the grade level, and not by their performance. Stepping into a higher grade is nearly impossible unless the person gets a higher education. There is no criterion for promotion based on publication performance. Strict control by the boss constitutes another factor. There is no delegation of authority to subordinates to release data to persons requesting it. There seems to be also some distrust on the fact of some leaders in releasing statistics. Maybe they have no confidence in their data, or maybe they are afraid the data exploited by user without their getting proper credit.

The problem of conflict of interest or authority has not happened yet between the agency responsible for data collection and that responsible for planning and putting out official data. If that occurs, a new organization has to be put in place. At the present time, the Directorate of Agricultural Extension (DVA) collects agricultural data from the field for the service of agricultural statistics SMTIS of MPARA. In case of conflict, DVA might withdraw from the responsibility of data collection because of its own priorities, SMTIS would then have to reorganize itself to have statistical agents in the field. Also, for the national agricultural census, SMTIS is the responsible agency, yet its main statistician/systems analyst working on processing the data is under the authority of INSRE. If INSRE assigns a top priority work to that statistician and thus takes him away from the work of the agricultural census, the processing of data will be delayed. The quality of data suffers also when there is a cross authority between agencies. The personnel of an agency generally try to perform to the satisfaction of the direct authority of his/her agency only.

II. Data Users and Analysis skills

1. - Ministry of Agricultural Production and Agrarian Reform (MPARA).

The services in charge of studies in MPARA are the Service of Economic Studies (SEE) and the service of Rice Sector Coordination (SCSR) of the Directorate of Programmation (DP). SEE is responsible for conducting studies on agricultural sectors except rice and thus to identify strategies and major direction plans for policy purpose. At the present time, it has finished a study on the cost of producing selected agricultural products. The study was done with SEMA, and a draft report, entitled "Coût et Prix des produits Agricoles - Annex 1985-86" was prepared. No copy was released, but a brief scan showed that a descriptive analysis of data was performed with some solutions to equations and some graphs. There was no econometric model in the study. Another study in progress also with SEMA, is on oilseed products. No methodology of the study was given; explanation was in general terms. SEE expects to undertake a study of export crops in the future. It has a personal computer SYMAG Edelweiss.

SCSR has a good capability to conduct economic studies because of technical assistance it received from AIRD. However, its studies are concentrated on rice only. The objectives of its present study, in collaboration with AIRD, are to analyze the production, consumption, and the distribution of paddy and rice in order to determine constraints and impediments in the sub-sector. The study will also propose solutions for elaborating a new rice policy in the framework of the government's efforts for self-sufficiency in food. It also seeks to analyze the new system of rice marketing and to put in place a system for monitoring rice sector.

The first phase of the project has been completed. The first part of the first phase included the analysis of the present rice policy, an analysis of rice production, a study of rice marketing in official and in parallel markets, and an analysis of rice consumption and household budgets. A first phase report entitled "Le Secteur Rizicole à Madagascar - Rapport de la Première Phase" was published in February 1983. A final report includes the analysis of rice production, marketing, consumption, rice policy (historical evolution),

description of the current policy), and analysis and recommendation on practical means for applying of the new policy. A simple model of the supply and demand for rice was developed. It takes into consideration changes in other prices and in income. The following elasticity coefficients were obtained: elasticity of demand for rice with respect to market price of rice, cross-elasticity of demand for rice with respect to prices of other products, elasticity of demand at market with respect to consumers' income, elasticity of auto-consumption of with respect to price to producer's elasticity of auto-consumption of rice with respect to prices of other products, elasticity of auto-consumption with respect to producers income, elasticity of production of rice with respect to rice price. SCSR has two personal computers: one SYMAG Edelweiss and one Osborne. The software used includes: Supercalc, Microstat, Wordstar, dBase II, and Symphony.

The service of Methodology and Processing of Statistical Data (SMTIS) of DP does not do any studies, but it processes and analyses survey data. It works closely with a statistician at INSRE on a detailed plan to process data from the national

SMTIS has two personal computers: one SYMAG Edelweiss and one Osborne. The Chief of SMTIS identified some of the software used as Supercale, Visicole, dBase II, and Wordstar.

2. Ministry of Animal Production, Water and Forestry (MPAEE)

The Service of Economic Studies (SEE) at the Directorate of Programmation (DP) has the responsibility for carrying out multisectoral studies. It has existed for one year. It has finished a study on export and internal market for meat. Two reports were claimed to be out and sent for approval. SEE also did a national macro-economic analysis of the trends of agricultural exports to determine the relative importance of meat export vis a- vis total agricultural sector exports. There is no economic model building or econometric estimation in the study. The service does not yet have a personal

computer.

The Service of Studies of Animal Production (SEPA) at the Directorate of Livestock (DE) does not do any economic studies. When asked to name some of the studies done at the service, the Chief enumerated all the projects being carried out at DE. For the analysis of data from the livestock census, there was no plan at SEPA. Even for processing of data, the plan is with SEDES. The results of the census are expected to be ready by July 1986. SEPA has one personal computer a SYMAG Elderweiss and another one is on order.

The Service of Studies of Forest Production (SEPF) does not do any studies inspite of its name it has no personal computer.

3. National Institute of Statistics and of Economic Research (INSRE)

Besides its function as collector of secondary data, publisher of the country's statistics, and conductor of large surveys, INSRE is supposed to perform economic studies on the economic situation as a whole. It has not put out any data on

national accounts since 1973. The service of Synthesis and Economic Studies (SSEE) is responsible for the task. It is now working on 1982 account and expect to finish them by the end of the year. The complaints were the lack of data and the lack of personnel. The data are even rare at the central administration: no data on final budget and accomplishment, no data on expenditures, no data on public debts. The Director of JMSRE and the Chief of SSEE claimed that data for 1978-83 exist at the central administration and for other sector of the economy. There is no personal computer at SSEE.

The Service of General Statistics (SSG) has responsibility for processing and analysing data from large surveys such as the population census, the household budget survey, price surveys, and the industrial survey. It also calculates Indices of prices. A series of studies and analyses were published from the results of population in 1975. For the household budget survey, SSE has produced only preliminary results for central urban areas (1977-78). For secondary urban and rural areas (1980) there is no plan as to when the results will come out. There is no other plan in terms of further analyses or studies

which use the results of either area. A statistician at SSG (Mr. Aime RAKOTOMAHETASON) is working on overtime pay with MPARA for processing on the national agricultural census. A detailed plan was for coding and transferring data to machine readable form has been published. A list of programs for editing the data was also provided. A flow chart of the different aspects of data processing was presented for information. Even some basic tables that can be obtained were thought out. Others will follow. The statistician claimed that the workplan will be accomplished as scheduled with little delay. He said that MPARA has 4 or 5 programmers to work on the project and other personnel will be assigned or recruited for the project as needed. The preliminary results are expected to be out in October 1985. There is no personal computer at SSG.

4. General Directorate of Planning (DGP)

DGP is the main agency in the government which needs secondary data from other agencies for its work in planning. There is no real economic analysis or studies per se. The complaint was that there were insufficient data from other departments.

The service of Economic Budget (SBE) under the Deputy General Director General in charge of conjuncture and economic budget has done some analyses of Madagascar's economic situation for 1984. The report entitled "La Situation de L'Economie Malagache en 1984 sur la Base des Realisations des Neuf Premières Mois" was made available. It is a description study with no economic model. Even though the Chief of SBE knows econometrics, he never used this knowledge in his works. There is no personal computer at the present time. In the near future DGP expects to receive an advisor from the World Bank and two IBM computers from USAID.

The Directorate of Planning Assistance (DAP) has a broad mandate in providing assistance in methodology for planning to other services of DGP. However, there was no work done in that matter. The Chief of SBE asserted that neither he nor any other Chief of Service would follow DAP's methodology if it puts out one since its capability is doubtful and there is no record of achievement. There is a personal computer at the service of Territory Management of DAP but the Director could not identify available software.

The Directorate of Sector Planning (DPS) is undertaking a study for the elaboration of the 1986-90 Plan. It is in the early stage of collecting data by pulling out all the data at DPS to find out whether they are reliable or missing. If the data are not complete, they will be requested from other agencies. The analysis will start at the end of March. At the end of April, options in the plan (objectives, measures to be taken for the objectives will be defined. The document will be presented to the government at the end of May. By August, a final plan will be elaborated. There is no real economic study in a narrow sense and there is econometric estimation involved in preparing the plan. There's no personal computer at DPS.

5. National center for Applied Research on Rural
Development (FOFIFA)

This is an agricultural research center. Its work concerns mainly experimental agronomic research. The Service of Research and Development has a program of regional socio-economic studies. Since 1974, FOFIFA conducted 12 regional surveys covering structure of households, farm structure, and farm budgets. The center processes data manually since its share of computer time at the university has been terminated. No reports on the socio-economic studies were presented. No personal computer is available.

B. COMMENTS

In general, Madagascar's technicians lack analytical ability. It seems that each service has sufficient personnel with university degree to perform studies, but they do not produce. Several factors appears to play a role in the problem. As was mentioned previously, there is no

encouragement in the civil service system for government personnel to produce publications. Another factor is that the government offices are organized with so many services that all the highly qualified technicians become Chiefs of Service and thus perform mostly administrative works. Many highly educated technicians also teach courses at local universities, and thus the time for preparation of the courses, travelling between office and university, and the time for teaching at the university take away so much time from official duties. The justification is that the administration pays low salary and teaching opportunities provide them with supplementary income.

All the users complained about a general lack of data. The problem of data flow has been pointed out in the comments on data availability. However, if a technician really wants to conduct a study, a lot of data exist, but they are not publicized. This means that data users share the blame for the data flow problem. The justification is that it takes too much time for technicians to go from one agency to another for data hunting, and there is no administrative means of transportation for them to use; they do not want to spend their own money for official duties.

The lack of data for analysis or study was denied from one agency to another. For instance, the General Directorate of Planning (DGP) blamed the National Institute of Statistics and Economic Research (INSRE) for not providing data. INSRE blamed other agencies such as customs office or Minister of Finance for not passing their data to them.

Some agencies benefit from the services of a foreign advisor in executing their analyses and studies. Unfortunately, the government technicians do not receive the necessary on-the-job training. The blame can be either that of the expert or that of technicians. It is easy to let the expert do all the work without involvement from technicians. There must be a willingness from technicians to learn because a foreign advisor generally hesitates to order a technician to perform a task.

There is a problem of coordination or sharing of studies. In some cases, two or three agencies perform the same types of analyses or studies. This problem is again partly derived from the problem of information flow and the lack of published reports.

III. Potential Use of Data

With respect to present data availability in the country, a great number of uses can be designed as needs arise. Some potential uses of data are enumerated below but these are not exhaustive. They concern only uses that are believed to be possible from data in the process of being collected from various surveys and censuses.

1. Data from INSRE I household budget survey

The survey is a rich source of data which can be used to indicate the quality of life of people. From analysis, it would identify the nutritional status of people by geographical areas, by income level, by occupation, and by target group such as pregnant women, lactating women, and children (target group might not be identified in the survey). Thus undernourished or malnourished socio-economic groups can be identified in terms of location, socio-economic group, type of nutrients deficiencies, and severity of shortage of nutrients. With this information the government can develop remedial programs to solve the problems revealed by the survey.

Another important piece of information that can be derived from analysis of the survey is the source of poverty. The survey would identify the various sources of income of households and the amount of earnings. The analysis would show the per capita income of the population in various geographical areas, in various occupations and activities, and the severity of poverty. It would point out the problem of unemployment, the degree of dependency of various members of households, and the productivity of the employed.

The econometric estimation procedure using household survey data would produce the patterns of consumption of people in different geographic areas and socio-economic strata. The own-price, cross-price, and income elasticities among foods/food groups and non-food groups would be obtained. It would be a comprehensive analysis of the whole economy by taking in consideration the interdependency of economic sectors in the system.

From the patterns of consumption, further analyses would indicate the impact on consumption of various geographic areas

and socio-economic strata if some economic measures were taken. For example, if prices of basic foods were allowed to increase substantially, the analysis would identify the groups which suffered the most and the degree of suffering; the nutrition status of the victim groups would be shown as endangered or not. Another instance is the impact on consumption of food imports either from commercial sources or from aid. Further analysis would identify which groups would benefit the most, and thus the policy could be set up to import the needed commodity which would benefit the disadvantaged, nutritionally endangered groups. Another question can be analyzed concerning the use of higher income by consumers, for instance. The analysis would indicate what proportion of disposal income is used for food and non-food items for each income group. Thus a policy of supplemental income could be elaborated whether to subsidize the poor by cash or by food coupon in order to raise their nutritional status.

The question has arisen as to the age of the data and the variability of prices especially rice price, to provide reliable information on policy implications by econometric study. There is no question that the data from secondary urban and rural areas are out of consideration for econometric

analysis because of technical problems and of short period of survey. (no variation of prices is expected). The best candidate is the survey in central urban areas which took place for 12 months in 1977-78. The pattern of consumption is not expected to change or is expected to change only a little since that time. Food habits are transferred from generation to generation and pattern of consumption remain rigid. The main staple food is still rice some rice is imported now to supplement the local production as it was then. Some investigation work has been done to determine the variability of the rice price. In 1977-78, the price of rice was fixed at an official rate of 55 FMG per Kg. In the opinions of the Chief of the Service of General Statistics and of Statistician Aime ROKOTOMANEFASON, there was variation of rice price from one large city to another and from the beginning of the survey to the end (12 months) because there was a parallel market and black markets. A few questionnaires were drawn from the archive and prices were calculated. Due to pressure of time and difficult access to questionnaires in the stock room, only completed questionnaires from Antananarivo were examined. The coefficient variation of the rice prices was found to be

5.268. Thus, there was a variability in prices of rice, if it is not big. The variability would be higher if the observations of other large cities were included in the calculation.

2. Data from MPARA's National Agricultural Census

The information on land use is very important for policy consideration. In the plan for agrarian reform, land use data can be analyzed in order to identify which courses of action would be taken to maximize production or welfare of peasants. Some of the options are:

- land reform program in which land from large holders, especially absentee landlords, would be broken up into small holdings and titles would be transferred to would be owners/peasants,
- land consolidation program in which very small holdings, which could not support a family or which are dispersed

among several owners, could be combined to bring about efficiency in production.

- land relocation program in which peasants who live and work on unproductive land would be transferred to productive lands that are made available to them.

- land settlement program in which the government locate would-be peasants from crowded areas or from large cities in productive area with some initial support,

- land reclamation program in which productive lands would be restored from permanent floods or permanent invasion of the sea.

- agricultural road program in which far-away peasants would be identified and a road would be built to permit agricultural products to be moved to markets.

The information on loss of agricultural products at harvest can be analyzed so that measures could be developed to minimize the loss of production. The Chief of SMTIS at MPARA claimed that rice loss at harvest is about 26 percent. It is a substantial loss. The analysis of data would identify the loss at each stage of harvest and causes of loss, Measures could then be taken to prevent substantial loss.

The cost of production information is essential for the government if it wishes to establish a floor price for a commodity by allowing a benefit margin above the cost to the peasant. The calculated floor price is compared to the farmgate price to see whether or not the commodity needs government support or intervention. The analysis of costs, would identify which factor contributes the most to the production costs of a commodity. In consequence, a program could be designed to alleviate that cost factor. If it were the cost of a particular input for instance, a program could be developed to make that input more available, subsidize the input, or suggest substitution of inputs.

3. Data from MPAEF's livestock census

The information on diseases and cause of death of animals, would be useful for as diagnosing livestock problem. The analysis would indicate the kind of diseases for each type of animals, the location of the diseases, the epidemic diseases, diseases that cause the most deaths, etc. From the diagnosis,

a remedial program could be developed. The program could be a vaccination campaign in the location of diseases or an all-out effort to wipe out a certain diseases. Another program could include preventive measures extended to animal owners.

COMMENTS

The potential uses of data are numerous and it is impossible to name them all. Generally, the use of data is designed as needs arise to solve a certain problem or to plan a program of action. The main comment under this section is that no government service contacted has any plan to use data beyond the basic tables. As noted earlier, it would already be a great achievement for a service to produce results of surveys or censuses with little delay.

IV. RECOMMENDATIONS

1. Each service, either as a generator of data or as a user of data, needs calculators for manual processing of data. they are aimed for technical agents what are responsible for to cracking out the results. Personal computers are also needed.

as pointed out by EUCEN team, but they require training, supervision, and maintenance. There should be a survey of the needs of calculators for each service. Calculators should be a desk-top kind with four operations or more.

2. Funds should be made available to services which have data to publish as yearbook of statistics or which have a study to publish as staff papers or bulletin. Basically, what the service needs is reproduction machine (copying machine or mimeograph machine) and good quality paper.

3. Several professionals at the service of studies need some special foreign publications. The first kind they need is that which provides statistics on foreign markets in particular. They lack information on prices of commodities in the world markets for their study of comparative advantage of their export products or their plan for promoting commodity exports. The second kind of publications concern technical journals which keep them current on new development in their field of work, similar studies, and which indicate methodologies of analysis used in the studies.

4. It appears that all professionals lack practical experience in analysis at all levels. On the job training would teach them the methodology of study. This training can be done by a consultant who would let the professionals of the country do all the work. He would serve as a advisor only by directing the study. He would come in the country from time to time to assess the progress of the study and solve study problems in terms of methodology or theory. The local professionals would learn to formulate a problem, to set objectives of study, to select techniques of analysis, to gather data from different sources, to develop a computer program if a computer is accessible, to run the program or to calculate estimates if computers are not accessible, to review preliminary results using statistical tests for validity, consistency and level of significance, to produce final results, to interpret the results, and to write a report.

5. INSRE'S household budget survey is a great source of information on the quality of life of the people. Its analysis would produce several answers to questions concerning nutrition.

and impacts on nutrition of a policy measure as explained in the section on potential uses of household survey data. It should be financed for production of basic results and for further analysis. The analysis beyond basic results consists of three parts. The first concerns the description of consumption and nutritional status by geographical areas and by socio-income class. The second part is the econometric estimation of demand parameters to determine the consumption pattern of each group. The analysis of potential consumption effects of a policy measure is the third part. Since the survey in the central urban areas was carried out according to the plan and finished on schedule, its data was judged as good enough for the three part analysis. Because of technical and financial problems, data from secondary urban and rural areas would undergo the first part of analysis only (if all completed questionnaires are in).

The analysis would be performed in close collaboration with INSRE's professionals either in Madagascar or in the United States. However, the work in Madagascar would not be possible unless a large amount of main-frame computer time at INSRE is permitted and a statistical software purchase (SAS) is

purchased. The econometric model used in the analysis requires a large amount of computer memory that the main-frame at INSRE might not be able to handle. If it is able, the analysis in Madagascar would require an American technician to come and work with local professionals for up to six months. If the analysis has to be done in the United States, one or two Malagasy professionals would be sent there and receive on-the-job training for up to 6 months.

The analysis aims not only to produce results which could be used for policy purpose, but also to train Madagascar's professionals on the methods of analysis of a household survey. The Chief of Service who handled the survey data has expressed her hope that the analysis would proceed and it would serve as a learning tool for a next survey.

6. INSRE should be a major source of all official data of Madagascar. To play that role, all services under the Institute need to be strengthened. The analysis of the household survey would partly strengthen the Service of General Statistics. The Service of Economic Synthesis with the responsibility to estimate the national economic account needs

great support for its endeavor. A long-term expert in national account would be appropriate in the country. The temporary Chief of Service appeared to believe that the task was beyond her capability. It seems it is time to strengthen INSRE since it is expected to move from the Ministry of Finance to the General Directorate of Planning (DGP).

Contacted Malagasy Officials

Ministry of Agricultural Production and Agrarian Reform (MPARA)

Mr. René RATSIMBARAZZ
Director of Programmation

Mr. Theophile RAMBINITSOA
Chief, Service of Methodology and Processing of Statistics Data

Mr. Charles Dean RASENDRATSIROFO
Secretary General

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Mrs. Vololona Tinalisoa RAZAFINDRAPARAGITA
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Mr. Norbert RASOLONDRATSE
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Ministry of Animal Production and Water and Forestry (MPA/EF)

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- Mr. Raphael RAMARINA RAILARY
Director of INSEK
- Mrs. Bodo RAOELINA
Chief, Service of General Statistics
- Mr. RAROTCARINIA
Chief, Service of Information Science
- Mr. Aime RAKOTOMAHAFASON
Statistician
- Mr. Raphael RASOAKANINA
Archivist

General Directorate General of Plan (DGP)

- Mr. Rene Ronchard RAKOTO
Chief, Service of Economics and Budget
- Mr. Rivo RAOBELINA
Director of Planning Support
- Mr. Victor RABARY
Director of Sector Planning
- Mr. Modeste RAVELOSON
Chief, Service of Agricultural Planning

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APPENDIX A

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INCOMING TELEGRAM

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AGRICULTURAL ANALYSIS.

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AIDAC

AIDAC FOR AFR/IR, AND PLEASE PASS TO J. GLESS, DUCEN
TEL. 703-1000 AND TO M. YETLEY, USDA/ERS
TEL. 202-447-2920

E.O. 12958: N/A

SUBJECT: MADAGASCAR: PROPOSED REDSO/ESA ASSESSMENT OF
DATA COLLECTION, PROCESSING, ANALYTICAL, POLICY
FORMULATION AND MANAGERIAL DEVELOPMENT NEEDS IN SELECTED
SECTORS

1. REDSO PLANS TO SEND A TEAM OF SPECIALISTS TO
MADAGASCAR FOR THREE WEEKS BEGINNING ON FEBRUARY 11 (A)
TO ASSESS THE AVAILABILITY AND QUALITY OF DATA CURRENTLY
COLLECTED IN AGRICULTURE AND THE ENERGY/NATURAL RESOURCE
FIELD, (B) TO LOOK AT WHAT CAN BE DONE TO ASSIST THE
NATIONAL INSTITUTE OF STATISTICS AND ECONOMIC REFORM
FINISH TADUATING THE 1970 HOUSEHOLD INCOME AND
EXPENDITURE SURVEY AND GET IT PUBLISHED IN A USEFUL
FORM FOR ANALYSIS, AND (C) TO ASSESS THE INSTITUTIONAL
CAPABILITY TO APPLY PROBLEM AREAS AND POLICY
ALTERNATIVES IN AGRICULTURE, ENERGY/NATURAL
RESOURCES, INDUSTRIAL PRODUCTION AND MACROECONOMIC
AREAS. THIS TEAM WILL BE COMPOSED OF A SURVEY
STATISTICIAN, A DATA PROCESSING SPECIALIST, A SPECIALIST
IN ARTISANAL AND SMALL AND MEDIUM-SCALE INDUSTRY
PRODUCTION, AN AGRICULTURAL ECONOMIST, AN ENERGY/NATURAL
RESOURCES ANALYST, AND A SOCIOECONOMIST FAMILIAR WITH
HOUSEHOLD ECONOMICS AND POVERTY GROUP ANALYSIS. THE
FIRST TWO OF THESE SPECIALISTS WILL BE FUNDED THROUGH
THE PASS WITH THE U.S. BUREAU OF CENSUS USING PD AND S
FUNDING PASS NO. IRE-2135-P-CA-3100-011. IT IS HOPED THE
ENERGY/NATURAL RESOURCES SPECIALIST CAN BE PROVIDED
THROUGH THE EIA PROJECT WITH ASSISTANCE FROM MEMBERS OF
REDSO'S S/MR COMMITTEE ALSO PLANNING A-TOY AT THAT
TIME. THE TWO ECONOMISTS MIGHT BE AID DIRECT HIRE OR
THROUGH REDSO'S PASS WITH USOR PASS NO. IRE-5102-P-AG-
4204-001, WHILE THE ARTISANAL SPECIALIST WILL BE
FINANCED FROM THE MADAGASCAR PD AND S ACCOUNT. THE TEAM
WILL IDENTIFY SPECIFIC INSTITUTIONAL TRAINING AND
TECHNICAL ASSISTANCE NEEDS, AS WELL AS COMPUTER
HARDWARE AND SOFTWARE, FOR DATA COLLECTION, PROCESSING
AND ANALYSIS WHICH CAN BE PROVIDED THROUGH THE FY 1985
0A PROJECT CURRENTLY IN THE PLANNING STAGES. IT WILL
ALSO GATHER INFORMATION NEEDED FOR THE FY 1987 EDSS,
PARTICULARLY WITH RESPECT TO THE IDENTIFICATION AND
ANALYSIS OF POVERTY GROUPS AND INSTITUTIONAL
CAPABILITIES. TEAM MEMBERS MUST BE FLUENT IN FRENCH.

2. OUTLINE AND TYPE OF WORK:

A. DATA COLLECTION PROCESSES, DATA AVAILABILITY
AND DATA GAPS:

1) STATUS OF CURRENT WORK, INCLUDING AGRICULTURAL
AND ENERGY/NATURAL RESOURCES

2) STATUS OF CURRENT WORK AND CAPABILITY SURVEY
AND ITS SUITABILITY FOR THE ANALYSIS OF INCOME,
DISTRIBUTION AND THE INCIDENCE OF POVERTY AMONG
DIFFERENT REGIONAL, ETHNIC AND OCCUPATIONAL GROUPS.

3) NATURE AND QUALITY OF CONSUMER AND PRODUCER
PRICE, WAGE RATE, EMPLOYMENT AND OTHER IMPORTANT
ECONOMIC DATA SERIES.

4) NATURE AND QUALITY OF THE INFORMATION BASE
PERTAINING TO AGRICULTURE, ENERGY AND NATURAL RESOURCES,
ARTISANAL AND SMALL AND MEDIUM SCALE INDUSTRIES.

B. DATA PROCESS: ASSESSMENT OF HARDWARE AND
SOFTWARE CAPABILITIES, IDENTIFICATION OF CONSTRAINTS AND
BOTTLENECKS IN DATA PROCESSING IN THE NATIONAL INSTITUTE
OF STATISTICS AND ECONOMIC REFORM, THE MINISTRY OF
AGRICULTURAL PRODUCTION AND AGRARIAN REFORM, THE
MINISTRY OF LIVESTOCK, FORESTRY AND FISHING, THE
MINISTRY OF INDUSTRY, ENERGY AND MINES, THE MINISTRY OF
COMMERCE AND INDUSTRY, AND THE DIRECTORATE GENERAL OF
PLANNING.

C. ANALYSIS: ASSESSMENT OF THE ANALYTICAL
PERFORMANCE AND CAPABILITIES OF THE DGM AGENCIES LISTED
IN (B) ABOVE. THIS WILL INVOLVE AN INVENTORY OF THE
RELEVANT PERSONNEL AND THE SPECIFICATION OF THEIR
EDUCATIONAL AND SKILL LEVELS.

D. POLICY AND PROGRAM FORMULATION: ASSESSMENT OF
THE PERFORMANCE AND CAPABILITIES OF THESE AGENCIES FOR
FORMULATING DEVELOPMENT POLICIES AND PROGRAMS AND
DESIGNING PROJECTS WITHIN THEIR RESPECTIVE AREAS OF
JURISDICTION. AN ATTEMPT WILL BE MADE TO IDENTIFY THE
STAFFING IMPLICATIONS OF ANY POLICY OR PROGRAMMATIC
AREAS LEFT UNCOVERED.

E. IMPLEMENTATION AND MANAGEMENT: AN ASSESSMENT
OF THE CAPABILITY OF THESE AGENCIES TO MANAGE THEIR
PROGRAMS AND IMPLEMENT DEVELOPMENT PROJECTS CURRENTLY
UNDERWAY (AND ADDITIONAL PROJECTS THAT MIGHT BE UNDER
CONSIDERATION), IDENTIFYING STAFF WEAKNESSES AND
DEVELOPMENT NEEDS, INCLUDING PROJECT EVALUATION SKILLS.

F. INSTITUTIONAL RESOURCES AND RESOURCE
LIMITATIONS: ALTHOUGH THIS IS LISTED AS A SEPARATE
CATEGORY, AN ATTEMPT WILL BE MADE TO ACCESS THE
INSTITUTIONAL RESOURCES AVAILABLE UNDER EACH ONE OF THE
FIVE AREAS JUST SPECIFIED (A-E), FOR QUANTIFYING OR
PROPOSING PROCEDURES FOR QUANTIFYING THE PHYSICAL,
FINANCIAL AND HUMAN RESOURCES AVAILABLE FOR CARRYING OUT
EACH OF THE FIVE KINDS OF ACTIVITIES. IN ADDITION, THE
IDENTIFICATION OF PROBLEMS, CONSTRAINTS AND POSSIBLE
CORRECTIVE MEASURES IN INSTITUTIONAL RESOURCES,
INSTITUTIONAL COORDINATION, AND PERSONAL OR
PROFESSIONAL DEVELOPMENT WILL BE INCLUDED IN (A) THROUGH
E).

G. SUMMARY AND INTEGRATION OF FINDINGS: THE
PROBLEMS, CONSTRAINTS AND POSSIBLE CORRECTIVE MEASURES,
INCLUDING NEEDED STAFF AND INSTITUTIONAL DEVELOPMENT
PROGRAMS AND PROJECTS, IDENTIFIED ABOVE WILL BE STATED
AND PRIORITIZED, AND AN ESTIMATE OF THE COST AND TIME
IMPLICATIONS WILL BE MADE.

3) SPECIFIC DETAILS RELATED TO CERTAIN COMPONENTS, IN
PARTICULAR ENERGY/NATURAL RESOURCES, WILL BE PROVIDED

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4. RESULTS FROM THE USE OF THESE METHODS HAVE BEEN
REFERENCED IN PART II. FOR FURTHER DETAILS OF THE
COMPOSITION AND AVAILABILITY OF POSSIBLE PAYMENTS
FOR "SECRET" OPERATIONS IDENTIFIED IN PART I, INCLUDING
THE CHANCE OF STATE ADOPTION'S SUITABILITY/AVAILA-
BILITY FOR THIS ASSIGNMENT. THESE