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Quarterly Status Report

for the Period February 22, 1982 to May 22, 1982

AID Contract AFR-0929-C-00-2024-00

Agricultural Development in Senegal:
Perspectives, Risks and Production Strategies

May, 1982

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1. The Work of the Principal Investigators

Work has been proceeding well in our study of Agricultural Development in Senegal. Because of delays in the signing of the contract, Professor John Waterbury did not arrive in Senegal until late January, 1982. He had planned to be in Senegal by late September, 1981. Nonetheless, Professor Waterbury quickly established contact with critical officials in Senegal's Ministries of Plan and Agriculture. Professor Waterbury and Professor Mark Gersovitz had earlier visited Senegal in August, 1981 to establish the groundwork for these contacts. USAID Dakar has been extremely helpful in helping us make research arrangements.

I want to address substantive issues first in my report to USAID. Professor Waterbury has remained in Senegal since January with a brief period back in the USA for consultation with Princeton personnel. He has had contact with Abdoulaye Dieye, Inspectuer Technique in the Ministry of Plan and with Mademba Ndiye, Conseiller Technique, MOP, and Badara Sy. Waterbury has also established, as has Gersovitz and Professor Jorge deMacedo, contacts with officials who work on Senegal at the World Bank, the IMF and with officials at the BCEAO.

Waterbury's own work has been devoted to exploring the evolving strategies for the agricultural sector in the large. The Ministry of Plan has felt that it was very important to have a schema directeur, a vu del' ensemble so that individual projects can be evaluated and contrats plan can be evaluated as they are made with the Societies de Development. Waterbury is especially going to examine the ways that SODEVA and SOMIVAC work, looking at the contrats plan which have replaced ONCAD. While the Ministry of Plan possibly wanted a detailed analysis of the vocation agricole of each of the eight regions, because it felt that certain projects are being cited because of ignorance of regional potentialities, we cannot in our analysis do a massive cost-benefit analysis of investment in regions.

We cannot do a study of regional trade-offs with regard to specific projects.

We can and intend, however, to lay out the parameters for policy making in Senegal. This will be on the administrative analysis side the responsibility of Professor Waterbury and also of Professor Sheldon Gellar, Robert Tignor, and Laura Tuck and Professor Bienen.

Professor Robert Tignor, who is an economic historian at Princeton and Chairman of Princeton's History Department, will be in Senegal in June and July, 1982. He will study rural credit arrangements in an historical perspective, roughly from the 1920s until the 1970s. In particular, he wants to find out how the Senegalese cultivator used credit, what his main sources were, and how credit arrangements affected decisions on crop mix, the introduction of new crops, and the planting of food crops. He wants to investigate the different kinds of credit available to local farmers, ranging from the central government which established credit cooperatives, called Societes Indigenes de Prevoyance, even before the First World War, to Syrian and Lebanese middlemen and to local African cultivator-merchants. Professor Tignor wants to discover how each of these groups fitted into the economic structure and what contribution each made to the provision of credit.

A certain amount of work has been done on the central credit institutions but very little on the role of local merchants and farmers. He will be in a much better position to judge how much data he can get on this topic after he surveys the material in Senegal this summer.

Since we believe that matters of credit and markets, including private sector operations are so critical, we have hired Ms. Laura Tuck to work next year and part of the following year in Senegal. Ms. Tuck is a Woodrow Wilson School MPA who has done outstanding work in applied economic and political analysis. Her French is excellent. Ms. Tuck spent the Fall of 1981 in Senegal and produced "The Role and Potential

of the Private Sector in the Senegal River Basin," which was well received by USAID and various State Department Officials in Senegal. This paper has been widely distributed. Ms. Tuck returned to Senegal in March, 1982 with Professors Bienen, Gersovitz and deMacedo and her addition to the project team was welcomed by USAID Director, David Shear. Ms. Tuck will deepen analysis of credit markets. She will look at the role of parasatals in increasing or reducing uncertainty as perceived by the private sector and caused by administrative procedures as inputs are supplied (or not supplied) and maintained to the agricultural sector. Ms. Tuck may also work with Professor Gersovitz on examining the role of processing industries in smoothing out or accentuating risk and uncertainty for agricultural producers and the role processing industries may play in various agricultural strategies.

Also, we plan to have working on our team Professor Sheldon Gellar, formerly of Indiana University and now a Consultant to USAID, Senegal. Professor Gellar may be the best informed American political scientist who works on Senegal. We expect him to contribute to analysis of political and administrative arrangements in the rural areas; to analysis of farm employment and to analysis of the reform of cooperative movements in Senegal. Professor Gellar will begin work on our project in October, 1982.

On the economic side, Professors Mark Gersovitz and Jorge deMacedo will carry out the major burdens of analysis along with Professor John Lewis. Professor Gersovitz traveled, as noted, to Senegal in August 1981 and March 1, 1982. During this visit to Senegal March 14-26, he obtained a large number of annual time series on aggregate economic variables relevant to assessing agricultural and trade strategies for Senegal, which feature prominently in our project proposal. These data fall into two groups:

- (1) Those data most relevant to the agricultural sector:
 - (a) on agricultural outputs for major crops by region by year
 - (b) on agricultural inputs by major crop by region by year: area planted, fertilizers, farm implements, seeds
 - (c) data on agricultural prices by crop by year
 - (d) data on climatic conditions by region by year.
- (2) Those data relevant to putting the agricultural sector into the context of the whole economy:
 - (a) real value of output by different sectors including peanut oil refineries. These outputs add to real GNP so they provide a complete picture of production
 - (b) real value of investment expenditure
 - (c) price indices by different sector.

Before and after the Senegal visit he has been pursuing an extensive literature search on the agro-meteorological evidence concerning the connection between weather and agricultural yields. As well, he has begun to develop a theoretical model for assessing risk in a trading economy with special emphasis on the processing of risky outputs relevant to evaluation of such projects as peanut oil refining.

The immediate stages of research (to be completed by July 1, 1982) are:

- (1) Checking these data for consistency, putting them in machine readable form, assessing gaps in the information to be filled by further investigation in Senegal.
- (2) Documentation through statistical analysis of the nature of uncertainty in weather and in international prices.
- (3) Construction of a computer simulation model of an economy subject to terms of trade and production uncertainty. This

model will be designed to approximate the behavior of the Senegalese economy through appropriate choice of parameters derived from further analysis of statistics on consumption and production in Senegal.

Professor Gersovitz will return to Senegal in the Fall of 1982 to share initial findings with USAID, Dakar and responsible persons in the Government of Senegal.

Professor deMacedo has been working on the macroeconomic side. Long-run development strategies are constrained by short- and medium-run macroeconomic stabilization policies. The ranking of alternative agricultural development strategies in Senegal involves therefore an analysis of macroeconomic policies, in particular policies for external balance. What has been the mix between balance of payments financing and adjustment? What has been the role of changes in the exchange rate of Senegal vis-a-vis non-Western African Monetary Union countries? This part of the research will assess the payments problems of Senegal. To do this, a conventional monetary model of the balance of payments and the exchange rate will be constructed and its implications contrasted with a three-country macroeconomic model which does not require domestic and foreign assets to be perfect substitutes and also allows for changes in the relative price of domestic and foreign goods. The implications of this comparison for macroeconomic policy, given a particular agricultural development strategy, will then be drawn on a firmer basis. The data obtained during Professor deMacedo's March, 1982 visit will be supplemented in June, 1982 and the outline of the model discussed at Plan, Dakar University and with economists from private bank creditors when Professor deMacedo returns to Senegal.

Professor deMacedo has had excellent contact with IMF, World Bank, and French officials. Before returning to Senegal he will hold meetings in Paris in early June, 1982 with responsible French officials.

While Professor Gersovitz and deMacedo have already traveled to Senegal, Professor John P. Lewis is about to begin work. Professor Lewis, who returned to Princeton from his Chairmanship of the Development Assistance Committee of OECD and who is a former USAID Director, India, is a very important addition to our team. His particular focus promises to be on the role of external development assistance, including interaction among the donors and with the Government of Senegal, in the promotion of Senegalese rural development. In terms of his personal interests and recent background, this work will afford a fine opportunity -- as it were, a major case-study opportunity -- for pursuing the issues of aid coordination, particularly in Africa, raised in Chapter III of his last (1981) report as DAC chairman. More importantly, it keys into a principal concern of the USAID Mission and the Government of Senegal, as reflected, for example, in the quarterly donor coordination meetings on various sectoral programs that the Senegalese government recently has begun to chair.

Professor Lewis will start his preparation for work in late June with a two or three day visit to Paris (that will come at the end of a round-the-world mostly work trip being made for other reasons.) (1) In Paris he plans to discuss aid to Senegal with a collection of donors (the French, other country members of the small CADA secretariat, the Club du Sahel secretariat, and probably some of the country representatives to DAC); and (2) to pick up relevant DAC secretariat data. Then, in late June he will pay a few-days visit to Dakar in order, in the company of David Shear, to meet the Minister of Plan and, as time allows, other government officials, mission people, and representatives of other donors -- and, again, to gather data, including but not limited to information on such

multi-donor and/or multi-recipients ventures as the O.M.V.S. scheme. During July and August in Princeton he expects to spend roughly half his time digesting the gathered information, identifying issues for study, and framing his portion of the Senegal study. He will be assisted at this point by a graduate research assistant, Alasdair Bowie. During September and part of October he will be looking ahead to and preparing for the Dakar meeting of the joint donor coordinating group on rural development which he expects to attend in early November.

Professor Bienen has been in charge of overall budgets and organization of the project. He traveled to Senegal in March, 1982 for further discussions with USAID and Senegalese officials. Professor Beinen also participated, together with Professor Waterbury, in the USAID discussions on USAID strategy in Senegal. He and his colleagues explained the project to GOS officials in Plan and Agriculture. Professor Bienen intends to do some work with Professor deMacedo on the political trade-offs in Senegal's participation in the CFA zone. He also intends to work on the political and administrative side of the study with Professors Waterbury, Gellar, and Tignor. Professor Bienen is responsible for coordinating the project at Princeton and for budget formulation and implementation.

Project Participants are as follows:

Henry Bienen, William Stewart Tod Professor of Politics and International Affairs and Director, Research Program in Development Studies, Woodrow Wilson School, Princeton University.

John P. Lewis, Professor of Economics and International Affairs

Mark Gersovitz, Research Economist and Public Affairs Analyst, Princeton University

Robert Tignor, Professor of History and Chairman of History Department, Princeton University

Jorge de Macedo, Assistant Professor of Economics and International Affairs

John Waterbury, Professor of Politics and International Affairs

Laura Tuck, Woodrow Wilson School, Research Economist

Sheldon Gellar, Senior Research Political Analyst

2. Other Investigators

We have already mentioned that Alasdair Bowie, a Princeton, Woodrow Wilson School MPA graduate will be assisting Professor John Lewis this summer. Also, Timothy Carlson will be in Senegal this summer as a USAID intern. Mr. Carlson, who is between his first and second years in graduate work at the Woodrow Wilson School, will be working for USAID on the private sector analysis.

Mr. David Spiro, a Politics Department graduate student who has finished his second year, will be working for OMVS on aid issues. We expect to be able to utilize Spiro's and Carlson's work on our project.

3. Colloquia at Princeton

The Research Program in Development Studies tries to disseminate information throughout the University and to a wider audience during its research projects. This year, two policy makers who have had long Senegal experience came to Princeton. Mr. David Rawson, formerly Political Officer in the US Embassy was in Princeton February 17-18, 1982. He talked on the "Economic Future of the Sahel: Possible Scenarios" and "Political Boundaries to Development Assistance in Africa." On April 16, 1982, Mr. David Shear, USAID Director in Senegal, talked on "Policy Planning in Senegal and the Senegal River Basin." These talks were widely attended by Princeton students and faculty and led to extremely useful exchange of views on our project and on Senegal.

4. Future Plans and Budgets

As noted, work officially started on February 22, 1982. We can report progress because Princeton University extended funds which allowed us to start this project some months earlier. The plans of the Principal

field investigators have been detailed above. We are submitting a second dollar budget for 1983. We have submitted to USAID Dakar and the Government of Senegal, CFA budgets for the years 1981-82, 1982-83 and 1983-84.

We hope to be able to make report of some work, especially that of Professors Waterbury, deMacedo and Gersovitz by late Fall, 1982. Professor John Lewis may well have something substantial to report to Dakar by his trip in November. Professor Gellar and Ms. Tuck will be at the start of their work.

5. Princeton Support

We have noted Princeton financial support for this project. We are able to utilize a seasoned staff who have worked on our USAID supported income distribution and environmental studies. RPDS staff includes: Shirley Canty, Jerri Kavanagh, Michelle Krichten, and Maxine Moore.

BUDGET FOR 1982-83

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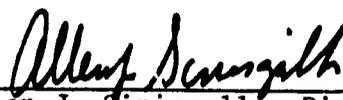
May 1982



Henry Bienen, Director
Research Program in Development Studies,
Princeton University
Principal Investigator



Donald E. Stokes, Dean
Woodrow Wilson School, Princeton University



Allen J. Sinigalli, Director
Research and Project Administration
Princeton University

1982-83 Budget: (For Calendar 1983)

Salaries for Princeton Personnel on Dollar Budget:

Henry Bienen - one month ^a	\$ 5,920.00	
Mark Gersovitz - five months ^b	<u>\$14,335.00</u>	
	\$20,255.00	
+ Benefits @ 25%	<u>5,063.00</u>	
	\$25,318.00	\$ 25,318.00

Other Princeton Dollar Expenses:

Research Assistance	\$ 4,000.00	
Travel to Washington - 5 trips	\$ 300.00	
Maintenance in Washington for 10 days @ \$60 per day	<u>\$ 600.00</u>	
	\$ 4,900.00	
+ Princeton Salaries	<u>25,318.00</u>	
	\$30,218.00	
+ overhead @ 64%	<u>19,340.00</u>	
	\$49,558.00	\$ 49,558.00
+ Computer programming & key punching	<u>4,000.00</u>	<u>4,000.00</u>
TOTAL PRINCETON DOLLAR BUDGET	\$53,558.00	\$ <u>53,558.00</u>

^aHenry Bienen's salary as of July, 1982 is \$48,000. At an estimated 11% increase it will be \$53,280 when the budget comes into effect. At one summer month or 1/9 it would be \$5,920.

^bMark Gersovitz's present salary is \$31,000. At 11% increase it would be \$34,410. Since Gersovitz is on a 12-month basis, 1/12 would be \$2,867 per month and at 5 months \$14,335.