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SENEGAL CEREALS PRODUCTION II

MID-TERM

EVALUATION REPORT

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EXECUTIVE SUMMARY

SENEGAL CEREALS PRODUCTION PROJECT PHASE II

BACKGROUND:

This report presents findings and recommendations of a seven-week project evaluation exercise carried out in Senegal by a team composed of an agricultural economist, an agronomist and an anthropologist. Some additional data on beneficiaries were provided in a preliminary report of a "Beneficiary Survey" carried out by SONED, a Senegalese research organization.

In addition to assessing the original project assumptions, reviewing any modifications in project objectives, and determing to what extent current project objectives had been achieved, the team was asked to make recommendations for actions or changes to take place during the remaining 10-month life of the project. Broader consideration of AID's future assistance to the development of the Groundnut Basin was also seen as appropriate for review by the team. (At the November 1983 GOS/Donor meetings, it was decided that a joint study of the role and functions of SODEVA would be conducted, to which this evaluation would be a key input.)

Phase II of the project was designed in 1979 to continue and reinforce what had been achieved under Phase I (1974-79) in building up SODEVA's institutional capacity to interact with the national agricultural research organization (ISRA) in order to formulate and evaluate joint field trials, and to convert results into financially viable extension recommendations. These, in turn, were to be more effectively transmitted to the farmer, leading to increased and diversified agricultural production in the expanded project area.

Unfortunately, between project design and the beginning of implementation, the entire policy and institutional framework within which SODEVA had been operating altered radically. The supply system for the factors of production and the agricultural product purchasing organization virtually disappeared. Short-term credit for input purchases was cancelled. The cooperatives came under severe scrutiny and were generally discredited. Thus, the production targets originally set in the PP were unachievable, since the farmer was simultaneously faced with a continuation of the downward trend in total rainfall and the lack of availability of improved seed, fertilizer, and credit.

Additional, endogenous factors affecting project implementation fall into three main categories. The first two concern staffing and the third, funding. Within the SODEVA organization itself, there have been considerable staff changes starting with the Director-General, who took up his appointment in 1981 having previously been with SOMIVAC and bringing with him a long experience of AID projects. The head of Finance came with him, and there was thus a discontinuity of experience between Phase I and Phase II in financial management. Within the regions, and between headquarters and the regions, there was also a considerable degree of movement which reduced the continuity of supervision and of executive memory. There has, however, been an upgrading of staff, both at headquarters and at regional level, which was a key project objective.

In the USAID, the first project manager was a personal services contractor with no formal background in agriculture or in AID management systems (although she had previously managed a WID project in another Mission). During the first year of implementation, there was a period when there was no WID Officer in the Mission, and the subsequent appointee was soon assigned project design tasks, leaving her little time to devote

to the Cereals Production Project.

The current project manager, who took on this project about a year ago, after completing his IDI rotation through the Mission, finds himself with a very heavy work load, given the present division of responsibility in the ADO and the complexity of the projects in his portfolio.

Funding has been a constant cause of friction between AID and SODEVA. AID's approval of SODEVA's annual budget submissions has been slow for a variety of reasons; the initial disbursement system of advance payments was stopped after a very negative Audit Report (1981). As a result, apart from some direct payments to suppliers by the USAID, SODEVA was required to pre-finance a considerable proportion of project expenses.

This latter problem was exacerbated by the fact that the GOS appears not to have covered counterpart costs in the second year in a timely manner. SODEVA had to borrow on the commercial market to continue its operations, including those specifically related to this project. The two project zone regions became the most heavily indebted. AID is still in the process of making reimbursements for SODEVA project outlays from the first year of implementation.

Continued misunderstandings between the financial control offices of the USAID and SODEVA as to each other's requirements, despite eight years of project operation, and the Audit Report recommendation (disputed by SODEVA) that a $500,000 bill from Phase I be presented to GOS, resulted in soured relations between the two organizations. Further misunderstandings arose as to the interpretation of the "flat rate" reimbursement of operating costs and the supporting evidence required by AID: a change in policy by AID regarding indemnity payments under counterpart versus non-counterpart funding exacerbated matters, and required supporting documentation.

Finally, and most crucially, the question of the condition precedent requiring the GOS to show how it would continue funding after the project ended, came to a head. AID appears to have given GOS a year's grace on this issue, but in April, 1983 funding for procurement for SODEVA was cut off. Long-term training, TA, and on-going construction were allowed to continue, but local training that came under AID-supported operating expenses was stopped. Again, the exact implications of this step seem to have been poorly understood by SODEVA, as some project activities which could have been direct-funded by AID were stopped for want of borrowing capacity on SODEVA's part, before AID stopped procurement, etc. Funding was started again in September 1983, after the recurrent cost plan was received.

This set of issues has absorbed an inordinate amount of project management resources, and the lack of understanding between the organizations--and--within SODEVA itself, the lack of transfer of information between the various departments--has led to a situation where regional staff understood that AID had cut off funds for two years rather than for the six months that was actually the case.

PROJECT ELEMENTS:

The project goal according to the PP is "increased productivity in the Groundnut Basin of Senegal to assist in meeting the Government's long-term goals of food self-sufficiency and an improvement of the life of the farm family." To attain this goal the project purpose is "to improve extension and research capabilities of the GOS to reach the entire farm family with improved cultural recommendations designed to increase food production and farm incomes in the Groundnut Basin".

The major project elements are: 1) upgrading of SODEVA staff to meet the evolving needs of the project area; 2) strengthening SODEVA's ability to produce and use audio-visual extension aids; 3) enhancing SODEVA's ability to collect and analyze data on macro and micro effects in the Basin; 4) tightening the link between applied research and extension in the Basin; 5) creating a Women's Extension Unit with SODEVA to develop and pursue a strategy to ensure women's access to information, factor inputs and other sources required to reinforce their economic role.

The five-year LOP funding to achieve these objectives is $7.7 million of which $4.5 million was to be disbursed in local currency. The GOS contribution was to total $7,57 million, primarily for salaries and other recurrent costs, the burden of which it had accepted gradually to assume

There was considerable discussion of the "objective measurements" presented in the Technical Analysis of the PP, particularly following an Audit Report which recommended that funding under Phase II should not be expanded to Trivaouane and Mbacké until AID could show that the expanded extension service was achieving production increases in the three departments funded under Phase I. The Mission persuaded the AA/AFR not to accept the recommendation, and funding went ahead. A USAID/GOS joint assessment of institutional changes in the agriculture sector had also taken place prior to the 1981 Audit Report's distribution.

With hindsight, it seems that the Mission might have taken the opportunity to assess the likelihood of success not only of the production aims before or after the Audit Report, but also to review overall objectives. However, given that the goal was a long-range one and that the process of

improving extension and research capabilities cannot be achieved overnight, the continuation of the project was justified in the evaluation team's view. But one might question whether such essentially institution building projects should have the "albatross" of precise production targets hung around their necks.

Input-Output Analysis:

The inputs listed in the log frame were a) technical assistance, b) training, locally and abroad, c) research, d) local manpower, e) women's extension activities.

Technical Assistance:

The Technical Assistance was provided under a contract between Aurora Associates and AID. The specialists provided for long-term technical assistance were an agricultural economist, an agronomist and a specialist in audio-visual methods and extension techniques. The present Director-General of SODEVA was personally involved in the selection process and the people were in post by Summer 1981. The agricultural economist/team leader was fired after a year but was replaced in only two months. The agronomist then continued as team leader. The people recruited, however had good French and prior developing country experience, two of them in Senegal.

The audio-visual expert had difficulties in operating because of serious delays in constructing the A-V center at Pout and the late delivery of equipment. These difficulties created problems in relationships and he resigned, effective mid-1983. SODEVA has requested, and Aurora has identified, a replacement who should be in post very shortly.

A point of some difference between the USAID and SODEVA regarding the TA has been the place of the TA specialists in the organization, whether they should work as a team and whether they should have host country counterparts. SODEVA saw their role as reinforcing the organization's capability and that when they left there would be a system established which would then enable a member of SODEVA's staff to carry on. Equally, they were not seen as a team but as members of whichever division was most appropriate to their respective expertise.

Short-term assistance has been provided in the form of a training specialist whose report appears to have been little used by SODEVA to date. Also envisaged were a livestock expert and a horticulturalist short-term; however, these specialities have not yet been requested.

What was not evisaged in the PP was SODEVA's request--approved by the USAID-- for the preparation of the terms of reference for a Master Plan for the Groundnut Basin. This was prepared in 1982, including baseline reports for the proposed team. Two consultants were engaged in the preparation of this study under the Aurora contract. AID has not taken up the recommendations for a variety of reasons, including cost.

There is a widespread view in Senegal that TA is merely a condition of the acceptance of donor funding (this was openly stated at the meetings between the donors and GOS). It is the impression of the evaluation team, however, that the TA provided under this project has helped institution building in the areas proposed and can continue to do so for the remaining LOP. More might have been achieved in the audio-visual field had buildings and equipment been there, but there is still time to remedy the shortfall. Although there have been problems with the organizational placement of the TA agricultural economist, she has recently been able to carry out her

terms of reference quite effectively.

Creation of the WID Unit:

The appointment of a woman sociologist to the staff of SODEVA augured well for this element of the project and the Director-General publically endorses SODEVA's desire to advance in this field.

The sociologist was at first at HQ Dakar but was subsequently moved to Thies, the better to supervise the WID activities in the project area. However, since she was also made head of DEP for the Thies Delegation, she found herself fulfilling two wide-ranging responsibilities. Furthermore, there was a problem finding monitrices. These were not made available by Promotion Humaine as had been anticipated in the PP, and eventually SODEVA recruited two women who were trained at the local Maison Familiale. This training orientation may account to some extent for some departures of the WID component from the original PP logic of provision of labor-saving devices which would then enable women to undertake income-generating activities. On the other hand, it is also argued that the women had no funds initially for the purchase of these labor-saving devices. Subsequently, they found themselves having put up money in advance only to find that the wells and some millet mills were not forthcoming due to project implementation problems. Only half the villages projected have so far been reached, but momentum has recently increased.

An initial decision was taken by SODEVA to attempt to integrate WID activities as much as possible into other activities at the delegation level.

In some instances, this has meant that this component has been somewhat

peripheralized. Follow-through at HQ is variable, which probably accounts for the lack of pressure being brought to bear on the Hydraulics Ministry to provide the TA and equipment for the planned and critical well-digging sub-component. Many WID component aspects are, however, successful despite these implementation problems. Communal fields, sheep fattening, woodlots, and poultry raising are going well, and management skills are being institutionalized.

Long and Short-Term Training:

For a series of reasons, SODEVA took advantage of less than one third of the long-term participant trainee slots, although ISRA used all slots provided. While the remaining funds are now attributed to short-term training, they are far from exhausted with 10 months of LOP left. English language proficiency has been one bottleneck, but poor internal SODEVA decision making and lack of sufficient information from AID about appropriate opportunities have also posed problems.

Training of Extension Workers:

With the change of approach to extension adopted by SODEVA between project design and implementation, the original target of numbers of extension workers trained is no longer relevant. However, the functional literacy aspect has been emphasized both as regards extension staff and villagers. This AID seems to have tacitly accepted. In addition to this type of training, which has advanced more or less according to SODEVA's schedule, there has been technical retraining at CETAD as well as in conjunction with ISRA as regards the joint trials. Training has been brought together under a separate Training Directorate which, with the

AID-funded facilities at Pout, should now be able to function more effectively.

The training foreseen under the WID component for monitrices at ITA, plus stages on horticulture in the U.S. or in Senegal, and for village women as vulgarisatrices, midwives or sanitarians, is behind schedule or has never started because of SODEVA's financial problems vis-a-vis AID.

Hiring of Additional Staff:

SODEVA has hired additional professional-level staff in line with the project's emphasis on institution building and with increased GOS demands on SODEVA. Concurrently, there has been a steady reduction in the numbers of field-level staff; the total of staff on board at the beginning of the project was 1,806. Now it is 1,360. The proportion of upper-level staff has in the meantime risen from 1.2% to 3.67%. The future of some of these people remains in doubt, however, unless the GOS is able to find the funds for their continuation. The GOS determination that there be further cuts in field-level staff is questionable given already high farmer/agent ratios, and delays in the audio-visual component.

Research:

Phase I of the project anticipated the building of a bridge between research and extension by funding a cellule de liaison at ISRA which would be able to conduct field level trials, evaluate them, and formulate extension messages which SODEVA could extend. This was thought by the Phase II PP team to have failed to the extent that a dialogue did not exist, and there was no feedback from the field extension workers or, more important, from the farmer back to research. Phase II gave SODEVA more capacity to evaluate the trials and required that the trials be done on a joint, annually-

agreed basis. This appears to be working reasonably well given the relatively short time-frame, and has had a positive impact on availability of appropriate messages for extension to farmers.

Construction and Commodity Procurement:

Construction delays have been significant through a variety of causes--some AID-related as regards approval requirements and some due to SODEVA's problems in obtaining sites and services. This has had a chain reaction effect on implementation of other project components. In some cases, regarding both SODEVA and ISRA, circumstances have altered and funding thus remains unspent. Commodity procurement has been a serious bottleneck. This again significantly hampered implementation, particularly of the audio-visual component.

The Use of Audio-Visual Techniques:

SODEVA has used this method of transmitting its extension messages since it received Iranian assistance in the mid-1970s. It was the intention of the project to reinforce this capacity, but due to problems which have been mentioned earlier, this is only now becoming possible. The use of these techniques is made the more imperative by the reorientation of SODEVA's extension approach, and reduction in field-level staff. Relations between the A-V team and the rest of the CETAD still remain to be clarified, including staffing implications. Commodity procurement for audio-visual equipment and vehicles is still not completed.

CONCLUSIONS:

Given the extensive changes in the political, economic and policy context in which SODEVA--and thus, the Phase II project--have operated during project implementation, the anticipated production increase targets have not been achieved. However, a significant proportion of other

project objectives are well on the way to being attained. It should be emphasized that this is true despite managerial and funding problems that have occurred, changes in the GOS mandate to SODEVA, and significant cuts in SODEVA's field-level personnel.

The Groundnut Basin is of crucial importance to the national economy in that over the last four years exports of groundnut products have averaged 19% of total exports. There are no other agricultural exports of any significance. The Basin is also a key source of cereal production.

Senegalese policies over many years have aimed at maximizing the output of groundnuts at the expense of everything else. This, rapidly increasing population, and declining rainfall have made urgent the diversification of crops and research, leading to the development of integrated farming systems which will arrest soil degradation and ensure the future of the farmers of the area.

In 1982/83, a total of 7,442 million CFA ($18.2 million) was spent on agricultural research to which AID makes a considerable contribution. USAID has invested eight years and, by the end of this phase, some $12 million in assisting in the creation of the vehicle for the transfer of the results which come from this research investment. It is in this context that the continuation of support appears justified.

SODEVA, partly through assistance from AID under Phases I and II of this project, has evolved into a more professional and capable extension organization than it was when it took over from SATEC in 1968. AID assistance has fostered effective links with CNRA, with the result that a feedback system now exists through which the results of on-station research are tested in on-farm trials, and farmer reactions are transmitted through SODEVA back to CNRA. With some exceptions, SODEVA has generally

lightened its touch in transferring technological innovation and recommendations to farmers in the Basin, and has developed a genuine group approach to extension. Its emphasis on paraprofessional approaches and functional literacy training for staff and farmer clients is a sensible response to declining personnel numbers, and to its GOS mandate to "wither away" These characteristics apply not only in the project area, but are in the process of being extended throughout SODEVA's zone of action.

Due to delays in construction, commodity procurement, and to funding difficulties, some components are not as far advanced as was anticipated for this stage of project life. There are considerable funds remaining in the pipeline which can be expended to accelerate the anticipated achievement of the EOPs for these components--training, audio-visual, WID, and research trials. In turn, a number of subcomponents should now be dropped, given the contextual changes in the GOS approach to agricultural production and marketing--seed treatment, input supply, and some construction being the major ones.

Unlike a number of the other Regional Development Agencies, SODEVA is now primarily an extension provider, rather than a global rural development agency controlling all aspects of agricultural production in the Groundnut Basin. This is as it should be, and AID should assist SODEVA to continue in this direction. Field-level staffing patterns relative to headquarters professional support should be viewed in the wider context of the degree to which SODEVA's current extension approach can effectively replace the prior, more intensive personal contact with individual farmers. This, in turn, should be examined in terms of GOS investment capability and priorities in agricultural production support overall. Similarly, SODEVA's involvement in literacy and management skills training should be examined in the context of other, competing institutional claims to this

function within the GOS, and measures of relative effectiveness.

There are several options for continued AID support to SODEVA. The recommendations that follow could be accepted and implemented through either or a combination of the following approaches:

Option 1. Extend the present LOP of Phase II by 24-36 months, with some increase in dollar and local currency funding. This would allow some long-term participant training; completion of the WID component targets; improvement in the amount of audio-visual material and approaches available; the extension of the TA agronomist's contract as requested by SODEVA; and additional trials and the development of a soil conservation/soil regeneration plan to be implemented subsequently by SODEVA, ISRA and other relevant GOS agencies. Other project objectives which are not likely to be achieved — e.g., production increase targets, some procurement, some construction, should be modified accordingly. This implies a PP amendment process, which is time-consuming, but which might provide a venue for improved communication between AID and SODEVA in the redesign process. It also implies continuing in a project funding mode, which has a number of implications for the balance of the Mission's project/program portfolio, and especially for project management resources within the Mission and within SODEVA.

Option 2. To the extent that the USAID wishes to have a direct impact on agricultural policy issues that relate to SODEVA's mandate and performance (and which are essentially beyond SODEVA's control), the Mission could move to a combination of DA project and ESF program assistance. The ESF would be conditional on some policy changes which, in turn, would allow SODEVA to function properly as an extension agency shorn of its other functions of distribution, marketing, etc. The DA dollar funding would make possible a) long-term participant training, b) U.S. short-term technical assistance, and c) some commodity procurement from the U.S. to support some pilot activities in the soil conservation/regeneration area. ESF (or Title III) local currency could be used to continue to fund some proportion of SODEVA operating costs and local salary support. This option — especially if Title III currency generations are used rather than ESF — takes into account that the Mission already has an approved Title III extension, which incorporated support for a soil regeneration fund. If dollar funding can be associated with this without the necessity of keeping a DA project on the books, the management load should be substantially be reduced.

Option 3. Like Option 2, this approach implies a further departure from DA project funding, but continued medium-term support for SODEVA operations in the present project zone, to achieve the same revised objectives, including soil conservation/regeneration, in cooperation with ISRA and other agencies. Under this option, a combination of dollar and local currency funding would be provided to the GOS through a PAAD, which would be attributed against specific SODEVA operating costs and some U.S. TA and commodities. A CP could be included in the PAAD requiring the same sorts of policy changes as in Option 2. Here, there would be no DA funding *per se* in projectized form. SODEVA would get a direct resource transfer, and some requisite TA. This would eliminate a good deal of project management intensivity on AID's part as well as on that of SODEVA, and would solve a number of the persistent accounting/financing/reimbursement problems that have characterized project assistance to date.

There is, a fourth option, which is to let the current LOP run out, having scaled down the project's objectives accordingly, and taking into account the likelihood that not all of the money in the pipeline can be spent in the next ten months in any useful manner. Later, when things are clearer on the GOS and the AID side, assistance could be started again, either of a program or project kind. This option is not recommended by the evaluation team for a variety of reasons, not the least of which is that it would most probably, by causing a hiatus in funding for SODEVA's operations in the present project zone, lead to SODEVA's gradual demise. This kind of an outcome goes against the conclusions of this evaluation to the effect that SODEVA is a viable organization with an important and manageable set of activities to perform.

The recommendations which follow could all be implemented under any of the three options discussed above.

VI. RECOMMENDATIONS

1. That USAID/Dakar continue dollar and local currency funding to support SODEVA's extension and ISRA/SODEVA applied research activities in the project area (Thies and Diourbel), over the medium term (three-five years). This assistance should be used to strengthen SODEVA's ability to extend new recommendations for increased crop production, continued crop diversification, related livestock operation, and soil conservation/regeneration activities.

2. That the budget responsibilities for ISRA/SODEVA off-station trials be redefined in the ISRA/SODEVA Agreement Protocol to enable better management of funds allocated for these activities.

3. To avoid further communication problems regarding finance and controller functions, that a) a meeting between senior USAID Controller Office personnel and senior management at SODEVA take place very soon, b) that consideration be given to SODEVA financial personnel being involved in AID's Sahel Regional Management Project.

4. Regarding the WID component, a) that funds be provided immediately for the anticipated training of monitrices at ITA in food preservation, b) for short-term training for these same two monitrices by CDH in gardening/horticulture; c) that 2-3 additional monitrices be hired and trained so that d) over the next year or two, the original 28-village target can be attained, while those villages that have been included for the longest period can have their initial income-generating activities reinforced and/or amplified; and e) funds be made available, and necessary USAID/SODEVA/Ministry of Hydraulics collaboration take place, so that wells can be dug and/or improved in WID villages as anticipated in the PP.

5. That under the WID component, a) millet mills be procured and placed in those WID villages whose women's groups have already paid their credit advance installment. Additionally, b) that purchase of a range of types of mill be funded by AID so that a controlled comparison can be made by SODEVA, ISRA—and the women's groups to determine which types of mills are most cost-effective, and require least maintenance; c) that USAID seek information from VITA, ATI/Washington, and other appropriate agencies concerning the availability of manually-operated millet threshers, peanut decorticators, and peanut-butter making machines. Depending on the outcome of this information search, funds should be allocated for the purchase of at least one prototype of each machine and its placement in one of the WID villages, with appropriate ancilliary training, where required; and d) that planned project funding for WID staff vehicles be discussed.

6. Thirdly, a) short-term TA be provided as necessary to assist the WID Director and her staff to design more effective medium-term income-generating activities for those village women's groups that are already at an advanced stage, and for those that will reach this stage later in an (extended) LOF, as well as to assist in the development of appropriate simple farm records systems, and of improved training in group and financial management skills. These kinds of assistance and/or documentation can be made available by CLUSA, ACDI, and some private consulting firms, as well as the AID WID Office, and the International Center for Research on Women, Washington, D.C., and PAID/Ouagadougou. Short-term TA could be substituted or complemented by a short trip by the SODEVA WID Director to the U.S. and/or Ouagadougou for this specific purpose.

7. a) That AID approve SODEVA's request for extension of the TA agronomist's contract for the additional six months requested since her qualifications and experience are well-suited to the current ISRA/SODEVA applied research. A short-term soil scientist with sound background in soil conservation and experience in practical aspects of soil management in arid conditions could be provided to strengthen the soil conservation themes of ISRA/SODEVA applied research activities and to upgrade the off-station trials in the direction of the soil conservation and regeneration program under consideration, b) that after the expiration of the present TA contract for the agricultural economist now in place, USAID work with SODEVA to determine whether further short-term U.S. assistance is desirable following the U.S. training of the DEP statistician and short-term U.S. training for one or more other DEP staff. These decisions cannot be made at this point in time given the lack of clarity about what SODEVA's staffing pattern will be six months from now.

8. That the possibility of increasing the number of applied research trials be considered in order to increase their validity, the variety of themes addressed and the number of participating farmers. The trials, where appropriate, should be designed with the aim of soil conservation and regeneration in view, and where possible, some women farmers should be included as trial participants. More emphasis should be placed on chemical analyses and economic aspects of the trials.

9. That the number of field trips to ISRA/SODEVA off-station trial sites organized for all concerned ISRA and SODEVA personnel be increased to two each year as proposed in the Programme de Tournées Conjointes ISRA/SODEVA 1983-84. The first trip should take place in the initial part of the growing season and the second toward the end.

10. That Information Visits at CNRA be organized at CNRA at least two times each year for all SODEVA personnel concerned with ISRA/SODEVA off-station trials as proposed in the Programme de Tournées Conjointes.

11. That the representatives of SAFGRAD, the CRSPs, ICRISAT and other relevant institutions be invited to participate in the annual ISRA/SODEVA meetings so that the links of applied research with other research facilities are strengthened. SODEVA Documentation Center should increase its capability to procure all relevant publications.

12. That a cadd (Acacia albida) promotion program be initiated by SODEVA to gradually increase the density of the tree population in the area up to 50/ha, as recommended in a recent review by Freeman.

13. That as much effort as possible be put into creating a viable Audio-Visual Unit at the CETAD in Pout now that the buildings and most of the equipment are finally in place but that, in addition, the mobile vans with appropriate equipment be procured as soon as possible. Additional short-term training should be considered for A-V team staff, as well as some additional staffing as required. The replacement medium-term audio-visual specialist be may be complemented, if desirable after her one-month trial period, by additional short-term TA specifically in the area of functional literacy training and methodology. This could, alternatively, be provided by members of the USAID/Dakar PDO Human Resources Development Group, if they are available.

14. That a) an information management systems specialist with a background in computer data processing be provided for three to six months to work with the DG SODEVA and the DTO and DEP Directors to determine whether data now being collected and analyzed are appropriate given who the end-users are, how they can better be exploited, and how information flows and report preparation within SODEVA and between SODEVA and ISRA, where relevant, can be improved. This person would also examine the present documentation service system and assess needs for microfiche, and other documentation materials, giving funding specificiations, and review requirements at delegation level for micro-computers and programmable calculators.

15. Given the arrival of the AID-funded Apple III, and the existence in SODEVA of an Apple II, training should be given in Dakar to a number of SODEVA management staff and some technical division heads on the uses of the computers, and the specialist called for in recommendation 13 should make recommendations about appropriate software, which could then be purchased with AID funds. The Dakar-based training could be provided to SODEVA staff through the planned MSU computer methods course for ISRA staff to be funded under the FSR project in Spring, 1984.

16. USAID and SODEVA should decide jointly, in terms of mutual acceptance and rejection of individual recommendations herein—especially duration and types of funding—whether to reinstate some long-term participant training in the U.S.. If a favorable response is forthcoming, then a) the present deputy training director should be sent for a MS in Communications, e.g., at Michigan State or Cornell and b) a SODEVA sociologist or economist should be sent for a MS in agricultural economics. As to short-term participant training, the DEP statistician should be sent to the U.S. for a course in farm management (e.g., at MSU) and the DEP agronomist should be sent to the U.S. for short-term exposure to ag.econ. computer analysis techniques. At least one other SODEVA senior cadre who will remain involved in AID-funded activities should be sent to the World Bank project management course.

17. The USAID should reconsider funding some of the studies called for in the Master Plan terms of reference for the Groundnut Basin. These might include a baseline soil conservation/regeneration study, studies on appropriate crops and livestock management systems and marketing, the study on functional

literacy and the organization of youth programs. Decisions about refined terms of reference, and study duration (s), as well as types of TA required, should be carefully made with SODEVA, and with ISRA where appropriate.

18. In future, whatever the type of funding and LOP determined appropriate by the USAID and SODEVA, project managers in the respective organizations should be able to interact directly. The USAID project manager should not have to meet separately with a variety of technicians and managers in SODEVA, nor should the SODEVA personnel continue to be given the impression that there are "too many chiefs" in on the decision-making about the project and its implementation at USAID. The system of semi-annual joint meetings at which the SODEVA DG and the USAID Director or Deputy Director are present should be revived, starting with such a meeting to decide on acceptance and implementation of the evaluation report recommendations.

19. SONED should be requested to provide the USAID with a) access to its data base for the "Beneficiary Study", b) a substantially revised methodology section in its final report, c) substantially better agronomic data analysis and d) if possible, analysis and conclusions about SODEVA field-level presence, farm income improvement given project inputs, and overall conclusions about project viability and SODEVA performance.

SENEGAL CEREALS PRODUCTION II
EVALUATION REPORT

I. Introduction

Background. This report contains the findings and recommendations of a six week evaluation of the Senegal Cereals Production Project, Phase II. The evaluation was originally scheduled to take place in CY 1982, under the Mission Evaluation Plan of 1980. For a number of logistical as well as substantive reasons, the exercise was postponed until late CY 1983. One reason for the delay was PPC's desire to conduct, simultaneously with the "mid-term" project evaluation, an AID Impact Evaluation of both phases of the project. Due to organizational and timing problems, this Impact Evaluation was postponed at the last moment.

In preparation for the proposed joint evaluation effort, the USAID contracted with a Senegalese organization, SONED, to prepare a beneficiary survey to be carried out in the project area. The preliminary results of this study were, indeed, available to the evaluation team toward the middle of its stay in Senegal. Unfortunately, due to design and reporting factors, this survey was not as useful to the team as had originally been anticipated. However, it did raise some key points for investigation and review by the team.

Given this background, the evaluation team proposed to the USAID that some broader questions than those often addressed in project-level evaluations be considered in this report. This proved to be particularly desirable given the fact that the AID evaluation was being carried out during the joint GOS-donor meetings on agriculture policy and food self-sufficiency. These meetings directly raised queston about the role and functions—and future—of SODEVA, the GOS regional development agency implementing the project. Therefore, while the report presents an input-output analysis typical of project-level evaluations in AID, it also attempts to place these findings in a broader policy and operational context.

The evaluation team, composed of an agricultural economist/team leader, an agronomist/extension specialist, and an anthropologist/organization specialist, was asked to assess the current validity of the original project assumptions, review any modifications made in project objectives, and determine to what extent current project objectives had been attained (see Annex).

Methodology. The team arrived in early November, 1983, just at the time that most relevant members of the Mission and of SODEVA, the GOS parastatal implementing the project, were involved in CILSS and other donor meetings with the GOS on agriculture policy and food self-sufficiency. These meetings included a significant emphasis on the role of the GOS Regional Development Authorities, including SODEVA.

The evaluation report outline was submitted to the USAID project manager on November 12, one week after arrival of the full team. At an initial meeting with the Mission Director and other concerned USAID staff, it was determined that the evaluation report, while stressing project-level objectives, accomplishements and problems, should also where possible draw conclusions and make recommendations which related more broadly to USAID-GOS interaction, and future program objectives.

Since the macro-economic and policy situation on which project assumptions had been based in the design phase (1979) had substantially altered since the onset of project implementation, (1980-81) it was considered vital that the team participate in these meetings, so as to appreciate the nature and scope of these changes, as well as the probable future context for project activities and the role of SODEVA in future management of production and marketing in the Basin. This, together with local holidays, meant that the team spent a longer period in Dakar than was initially foreseen, interspersed with reconnaisance trips to the project areas of Thies and Diourbel, to meet with key SODEVA regional-level officials. Field visits were also made during this period to the SODEVA training center at Pout, the (ISRA) Instit Senegalais a la Richerche Aguiste research center at Bambey, and to a number of farmers who had been involved in joint ISRA/SODEVA applied research trials funded by the project.

In the fourth week, the team proceeded to the field, visiting a sample of one-half of the villages which had been included in the WID component of the project, and a further sample of one half of the farmers involved in applied research trials. The team was accompanied by regional and departmental-level SODEVA and ISRA cadres, and members of the US technical assistance team, as well as the USAID project manager's assistant, and the USAID WID officer. At least one day was spent in each of the five departments covered by the project.

Following these field visits, and additional meetings in Dakar with other GOS agencies involved in developing the Groundnut Basin, the team prepared a draft report and an executive summary for discussion with AID, SODEVA, ISRA, and other relevant GOS agencies. Meetings were held to discuss key issues raised in the draft evaluation report, and to recommend changes or additions to be included in final report preparation. The V-P of the US consulting firm that provided the TA specialists was also a participant in those meetings.

It should be noted that, contrary to the original evaluation methodology assumptions, SODEVA was not asked to provide a member of the evaluation team. Rather, different cadres were assigned to accompany the team on field visits, and the head of the Evaluation and Planning Division (DEP), was assigned as overall contact person for the team in SODEVA.

II. PROJECT CONTEXT AND BACKGROUND

Phase I

Phase I of the Cereals Production Project (1974-1979) identified the Thies and Diourbel regions as one of the most heavily populated farming areas of Senegal. Together with the Sine Saloum region to the south of Diourbel these regions form the Groundnut Basin of Senegal where the bulk of the country's cereals and over 80% of the groundnuts, upon which the national economy depends, are produced.

The project aimed to build on work which had been going on since 1964 under the country's "Programme Agricole" to shift the traditional farming systems through semi-intensive to intensified farming by the wider use of a new strain of millet and a range of improved methods.

The vehicle for the transfer of this technology was the Regional Development Agency "La Société de Développement et de Vulgarisation Agricole" (SODEVA) which was charged with the development of the Groundnut Basin. This organization, created in 1968, was designed to replace the extension service provided from 1964 by France through the French firm "Société d'Aide Technique et de Coopération" (SATEC).

SODEVA is a semi-autonomous "mixed economy" institution set up with an initial capital of 10 million CFA. The GOS is the principal stockholder but others include the Senegalese marketing organization (ONCAD), the Senegalese development bank (BNDS), SATEC and agricultural coops created by ONCAD for credit and marketing purposes.

SODEVA's activities between 1968 and 1971 was largely funded by the French Caisse Centrale (CCCE) and IBRD, following which the government contributed substantially. At the time of the design of Phase I there was also significant support from CCCE, FAC, FED, and IDA for specific project and activities. Iran also made a long-term loan to provide audio-visual facilities and buildings as well as mobile A-V units.

The Phase I project outputs were listed as:

a) Recruitment and upgrading of SODEVA extension personnel in the project area;

b) Establishment of required SODEVA infrastructure including training from demonstration facilities;

c) Setting up of an applied research unit in CNRA to assure coordination between research and agricultural extension activities;

d. Increased number of farmers to be included in the intensification program.

A sub-project was added to the original Phase I Project which was aimed at assisting the work of Promotion Humaine in its training schemes in home economics, for local artisans and functional literacy for local SODEVA extension workers, male and female animators ("pilot peasants" —the forerunners of the paysans relais), local officials, artisans and women and youths.

In February, 1978 an evaluation report was prepared based on a draft report prepared in March-April, 1977. This report was very positive as to the results achieved. It acknowledged that some of the higher levels of technology had not been adopted at the rates originally predicted, but postulated several reasons why the original "packages" had not found favor with the farmers.

These were:

a) the relatively small percentage of farming units with adequate land resources to make the larger investments or capable of affording the higher risks involved;

b) inadequate supplies of the heavier farm implements required;

c) conflict between heavy fall plowing and harvest far use of labor;

d) the as yet incomplete demonstration of the economic superiority of the higher levels of technology over the less intensive technology.

Concurrently it had become evident to SODEVA that the package approach to transmission of extension messages was not inappropriate for all farmers in all situations and they began to adopt a more flexible approach to the technical transfer function. There were positive results to be seen in the numbers of farmers adopting some level of intensification increasing by 55% from 1974-75 to 1975-76 and 33% from 1975-76 to 1976-77 respectively.

Shortly after the 1977 evaluation of the project, a graduate research assistant from the Department of Agricultural Economics at Michigan State University, carried out an additional study of production increases in the project area. This concluded that the results of the project were negative in terms of the output increases against the investment made. This paper gained wide attention and much credence in AID/W and USAID/Senegal found itself having to defend the project. The main point made by the Mission was that by assuming the first level of intensification to be baseline then the benefits accruing to the project were grossly underestimated and that a recalculation taking into account the lower levels of intensification gave a strongly positive rate of return (over 17%).

Despite the differences of opinion over the precise levels of production increases, and since the official 1978 evaluation report found that the general objectives of institution-building and research/extension liaison had

been achieved, a second phase was recommended. This was partly premised on a recognition that the continuatin of the same level of staffing and activities as under the first phase implied higher recurrent costs than the GOS was likely to be prepared to bear, and that as technologies became more complex the needs for extension would be for better-trained agents and less for massive grassroots effort (encadrement lourd). Clearly, to refuse a second phase risked the total collapse of what had been achieved thus far.

The evaluation did point to the external factors, beyond SODEVA's control, which had had a negative impact on project performance and which should be examined in the context of the second phase design.

As to the CNRA/SODEVA applied research relationship, this was considered to be of continual importance; it was felt that it could be reinforced, particularly in the area of data collection methods and analysis.

It was also suggested that the second phase design embrace a broader strategy than one based on increased millet production, and encouragement of other initiatives already adopted by SODEVA was recommended. These included integration of livestock with crop production, extension of the crop production base and forestry. Increased levels of participant training were also proposed in view of the needs that SODEVA and CNRA would have as expatriate staff were replaced, and in keeping with GOS policies of upgrading extension staff.

GOS Priorities and Request for Phase II.

The request for second phase funding for the Senegal Cereals Production Project was made in September, 1978 with the added request that this should be extended to cover the departments of Tivaouane in the region of Thies and M'backé in the region of Diourbel. At the time of the request it was clear that the GOS was very concerned about the recurrent costs with which it would be faced given the level of staffing at that time. Equally, AID/Washington wanted to see a reduction on the level of USAID's funding of local salaries. A diminishing level of salary support was arrived at with the SODEVA management, but with a condition precedent to the project that the GOS show how it intended to fund SODEVA's staff beyond the end of project life.

In line with principal objectives of GOS, and its primary aim of increasing production through the extension of appropriate technologies, the project was designed to sustain SODEVA's capacity to continue the upgrading of its staff and the strengthening of the link between research and extension.

Exogenous Factors Affecting Project Performance.

SODEVA's Functions as a Regional Development Agency.

The function of the Senegalese Regional Development Agencies (RDAs) varies according to the nature of the agricultural and activity in their zones of responsibility. Thus, SODEFITEX is principally based on cotton production,

while SAED, initially responsible for the development of, the Senegal river delta, but ultimately the whole river valley, is more concerned with irrigated cereal production. SODEVA, on the other hand, inherited its functions from the long tradition of state intervention in the Groundnut Basin from which flowed so much of Senegal's national income. This was, and is, "the center of gravity of the entire Senegalese economy and polity" (Waterbury, 1983).

SODEVA's origins lie in the "technical approach" to increasing groundnut production and the contract between GOS and the French Société d'Aide Technique and Cooperation (SATEC) of 1964, with financial support from CCCE and IBRD. This program also aimed at increasing millet production. This was the period of intensive encadrement and the attempt to formulate a series of technical packages which would be diffused and adopted in a hierarchical manner towards the goal of intensification set for the farmers by the State.

SATEC is attributed with spectacular success in spreading the purchase of subsidized equipment on credit but this led to increasing acreage rather than achieving the higher yields from the same acreage, which would have permitted the maintenance of fallow. This in turn led to reduction in fodder crops, green manure and soil fertility. To achieve greater production, the farmer had to buy fertilizer and to do this he had to grow more groundnuts, thus he had to cultivate more fallow.

Furthermore, since SATEC had only one major production objective, it did nothing to foster the mechanisms which had existed to bring together the officials of other government agencies—forestry, animal husbandry, veterinary, seed services etc.—at arrondisement level. There was a concurrent divorce between agronomic research and the extension service which continued until attempts to bridge the gap were made under the Senegal Cereals Production Project, Phase I.

When SODEVA began operations in 1968 it largely inherited SATEC's aims, its mandate being to:

a) increase overall production;
b) double per worker productivity between 1970 and 1980;
c) promote diversification; and
d) increase cultivator income.

Since its creation, the greater proportion of SODEVAs budget has come from outside sources. The exception was during a period from 1970-72, when most of the funding was local. There have been fluctuations in funding levels and in the level of activities possible which have altered SODEVA's approach to its farmer clients. Thus, an "elitist" approach to the transfer of the extension message to the "paysan de pointe" who was sufficiently well-endowed to adopt it—economized on personnel during the early 70s when funds were short. As funding from outside sources became more generous, the staff lists of SODEVA grew rapidly, with some growth in the upper echelons.

In 1977, there was a formal shift again towards the vulgarisation de masse approach with the extension agent interacting with groups of farmers as

opposed to individuals. The "new" approach, which in effect is the pre-SATEC approach, was restated in the Lettre de Mission which is the basis of the current contractual arrangement between the GOS and SODEVA. The means of transmission which are proposed for this "auto-encadrement" are demonstration plots and organized visits followed by discussions, audio-visual and radio diffusion of advice, and meetings. All this is to be rounded off by management councils which will help the individual in determining his input needs, the better to manage his holding.

This implies a reduction in the number of base-level agents and the improvement in the level of all the operators in the field from the support technical staff in Dakar through the regional, departmental and field level extension worker to the farmers themselves, who will bear a greater responsibility for formulating their own demands on the extension service. This has caused a shift of emphasis of the work of the extension service towards a heavy program of functional literacy training for the lower-level agents, and for farming community members. SODEVA is thus, in part, competing with Promotion Humaine in the literacy training arena.

The criticism which SODEVA has of the Promotion Humaine literacy training is that it is not sufficienly relevant to the needs of the rural population and that, in any case, that service does not have the resources to cover the target population. SODEVA sees the need to train the villagers to be able not only to read and understand technical advice but to organize the documentation necessary for the management of the sections villageoises for their participation in the renewed cooperative movement. This approach coincides with the view of the Direction de Coopération which proposes to set up a similar program using similar methods.

The discussion of the appropriateness of SODEVA as the agent for rural literacy training has, of course, much wider implications than lie within the scope of this project evaluation. It should perhaps be said in favor of SODEVA's undertaking this work that it has more agents on the ground than most other agencies; that these agents do not have an even work load year round, given the short growing season in Senegal; that they can combine literacy training with transferring technology and have the technical means to do it, with the CETAD facilities.

However, this is an area which GOS and the donors will probably wish to analyze in more depth in order to determine Senegal's long-term needs with regard to literacy training and a rationalization of whatever resources are considered to be appropriate. This is especially so in light of the Caisse Centrale's proposal to fund literacy training through the cooperative movement.[1/]

1/ Caisse Centrale has not yet formulated its policy vis-à-vis cooperatives, but awaits policy clarification from GOS and Direction de Coopèration

As with literacy training, liaison with research, the capacity to analyze the results of on-farm trials and develop extension messages from them, is a direct adjunct of extension and should therefore be within the capability of an extension service.

This link with research, the creation of feed-back mechanisms and the capacity to analyze results has been an objective of both phases of the Senegal Cereals Production Project. There is strong evidence to suggest that this element of the project is beginning to bear fruit and that the will is there within both SODEVA and the ISRA's CNRA for this to continue and to develop. If this is so, Senegalese investment in research will bring better returns than hitherto. It is, however, appropriate to examine the other activities undertaken by SODEVA and consider whether these properly belong to an extension organization.

Agricultural Inputs.

Currently, SODEVA provides a certain amount of agricultural inputs through its "Intendance" staff. This staff consists of 3 people at headquarters at Dakar, 17 people at delegation and department level, as well as 45 storemen. The products stocked consist largely of veterinary medicines, insecticides fungicides, small spares, vegetable seeds, some ox traction equipment and, in 1983, stocks of fertilizer which were sold from SODEVA stores through a contract with the Société Sénégalaise d'Engrais et Produits Chimiques (SSEPC).

In the past SODEVA was the vehicle by which farmers' orders for fertilizers were transmitted to ONCAD. The basis of SODEVA's sales is cost plus 10% which it is admitted does not cover the total cost of the operation. It is open to question whether this should be part of SODEVA's function and whether this type of operation should be subsidized.

At the time of the Phase II design, it was understood that SODEVA intended to divest itself of this function, but to date there is no sign of this happening. It seemed from various conversations that there were other sources of supply (local markets, firms like Les Niayes, etc.) and that farmers were pretty well aware of what they wanted and how to use it . There is very little extension supervision in the use of the products, except in the context of demonstrating. Furthermore, if subsidized supply systems continue to be provided, there is little possibility of a realistic commercial supply system developing.

The future role of SODEVA—and other RDA's—with regard to the "revitalized" cooperative movement, and associated credit programs is unclear at the present time. It is the stated GOS policy that the new base unit of the cooperative structure will be the section villageoise, a group based on ties of co-residence and kinship, which is to be smaller than the previous base-level cooperative. These sections are to have officers and a management capability, and to offer collective security for loans. According to one model, they are also to be financially autonomous and responsible directly to

the Senegalese development bank for loan repayment. SODEVA staff, including senior management, believe that SODEVA has a special advisory role to play to these new entities, and that their comparative advantage is to work with and through the paysan relais, a member of the section staff, to provide assistance concerning a range of production decisions. Again through the paysan relais, SODEVA can, they believe, provide effective literacy and management skills training, including advice about credit-worthiness of individual section members. This view conflicts fairly directly with that, of the staff and senior management of the Direction de la Cooperation (part of the same Ministry of Rural Development) which see themselves as being the main broker to the new sections. At the time of the evaluation team's visit, these conflicting interests and models had not been resolved.

In the past, SODEVA had a role in the production of certified ground-nut and cereals seed. For N1 groundnut seed, responsibility lies with the Service Semancier, but SODEVA still has the titular responsibility for other certified groundnut seed. SONAR, the successor agency to ONCAD, is ultimately responsible for the purchase of seed, and has the funds insofar as these are available. SONAR claims that SODEVA is unable to fulfill its part of the seed quality control system for lack of funds. The seed conditioning center that was formerly managed by SODEVA is now in the hands of the Ministry itself.

There is a proposal in the GOS/SODEVA Lettre de Mission that farmers be encouraged to keep their own groundnut seeds in warehouses belonging to the sections villageoises. This implies the construction of some 1,850 warehouses, but financing and management of such a massive construction program is not clarified. The cost of each warehouse is approximately 5-6000 CFA, making the entire program worth some 925 million CFA (U.S. $2.25 million).

For cereals and cowpea seed, SONAR is responsible for purchasing seed from the farmers who have undertaken to multiply seed with SODEVA's assistance. The RDAs are supposed to ascertain the overall need of farmers in their areas for certified seed, and pass these estimates along to SONAR, which then buys the required amount from the multipliers. This year, this has all been a bit theoretical, since the price of cereals on the local markets is well in excess of the official price, which is all that SONAR can offer. It would appear that past problems with multiplication and supply of certified cereal seed will not be resolved in the coming year.

The RDAs have a role as trouble-shooters in the case of an attack by pests. SODEVA, for instance, will warn the MDR's agricultural inspectorate who will make available the necessary pest control material and the SODEVA agents help in the control of the attack.

Finally, the RDAs find themselves as the collectors and collators of basic agricultural information, for which the agricultural inspectorate has insufficient staff, as well as having to respond to a variety of ministerial queries. Again, this might not be regarded strictly as the work of an extension agency, but the information which they provide is basic to the

capacity to plan for the rural sector of the economy and the provision of a similar capacity within the inspectorate would imply a duplication of staff at field level and the consequent costs.

The above discussion indicates the extent to which SODEVA's efficacy is dependent upon the agricultural policies of the country and the provision of the major factors of production. The life of the Senegalese farmer is made precarious enough by the vagaries of the weather which, according to some calculations, account for some 65% of production variability, without having the supply of seeds, fertilizers and equipment disrupted as well.

Prior to 1980, the cornerstone of Senegalese agricultural policy was agricultural credit. Due to poor management and inadequate accounting practices, the former system whereby famers were extended credit through the cooperatives to be repaid in cash or in kind through the delivery of agricultural products, was suspended. The GOS twice forgave debts in response to poor crop years and when ONCAD was abolished, all cooperative debts were cancelled after an unsuccessful attempt to assess them, in which SODEVA had been assigned the task of rectifying all accounts at the individual coop member level.

A Prime Minister's Working Group which included various donors was organized to draw up a revised system. Plans were made and the system was to be tested in the region of Thies and the department of Matam. As yet, however, this has not got underway. Broadly, the proposed credit system of the future will be based on the financial autonomy of the section villageoise which will then negotiate directly with the bank and will be responsible to it for reimbursement. The sentiment is being expressed that the GOS has thrown money at the rural community (given the poor repayment record), that the results obtained have not justified this program, and that in the future the farmer must be responsible for his own indebtedness.

Throughout the life of the project, however, the farmer has been unable to obtain credit through formal channels. In her examination of "Formal and Informal Financial Markets in Rural Senegal," Laura Tuck discusses the benefits to be obtained from borrowing for short-term inputs and concludes that the lack of credit was not necessarily the reason why farmers have not purchased fertilizers since the collapse of the Programme Agricole".

There is a general acceptance that in some regions some of the fertilizer recommendations extended to farmers are simply not profitable, but what has probably disrupted farmers' buying habits more has been the erratic supply and pricing policies pursued in the last few years. The program was as follows:

- 1980, ONCAD was still in existence so fertilizers were delivered to the coops on credit; sales in the project area—18,482 tons.

- 1981, SONAR (which had replaced ONCAD) sold fertilizers under a similar system, the cooperative recuperating the cost by deduction from sale of groundnuts. The price of fertilizers (with the exception of certain specialized formulations) was 25 CFA/kg.

- 1982, SONAR sold fertilizers for cash at its own outlets which were few and far between, thus rendering supplies relatively inaccessible to many farmers. In addition the price was at first announced to be an unsubsidized one of 115 CFA/kg which brought an outcry from the farmers, in the face of which the government reduced the price to 25 CFA/kg.

- 1983, in the Groundnut Basin a contract was made between SSEPC and SODEVA for the supply and sale of fertilizers through their input supply warehouses which offered the farmers more sales points per department. However, the price at which fertilizers were offered was 50 CFA/kg. This was to be paid up front in cash. It is thought that many farmers held off buying in the expectation that the price would be lowered at the last moment. This did not happen. In addition the view has been expressed that farmers used their reserves of cash to buy foodstuffs due to an inadequate carryover. Fertilizer use in the project area over the last four years is demonstrated in Table 2.

The purchase of farm equipment has always been closely tied to the availability of credit and machinery subsidies. The "Price Assumptions" Table in the PP shows that ploughs carried an almost 50% subsidy, hoes and groundnut lifters about 30% and carts about 25%. The cessation of credit availability registered a swift drop in the sale of equipment and reports have it that the farmers now rely heavily on spares produced by local craftsmen but that the capital stock is not replaced or augmented.

Thus, the input delivery system, which had never been notably efficient in providing inputs in a timely manner, went from bad to worse during the LOP.

Similarly with seeds (on which, in the case of millet, much of the anticipated production in the project area were based) the system broke down in the face of changed policies and inadequate cash transfers to enable the purchase of seed for cleaning, and its treatment and subsequent distribution. Thus, the targets which were adopted in the Project Paper must be examined in the light of the inputs which were made available to project area farmers.

The PP's production targets have been criticized as unrealistic, and were revised downward in 1982. Table 1 indicates the original predictions compared with what was actually achieved in area, yields and total production. Also shown in the table are the revised estimates which AID requested from SODEVA and which are based on the production targets required of SODEVA by the GOS in the Lettre de Mission, and which are heavily qualified according to the availability of the factors of production, including rainfall.

The previous discussion indicated the difficulties which farmers have faced in obtaining fertilizer supplies and Souna III seed upon which the yield predictions were based, and Table 2 demonstrates the sales in the area during the project period. Rainfall, however has also followed its unpredictable pattern which is indicated on a yearly basis in Table 3 and whose downward trend is shown in Table 4. What is not apparent from these data is the

all-important factor of rainfall distribution both geographically and temporally. These important variations can make the difference between disaster and sufficiency.

Table 1 also demonstrates the effect rainfall has on yields where in 1981, a year of relatively high rainfall, yields came near to, or in some cases exceeded the Project Paper predictions for the end of the project. This suggests that the yield predictions were not unrealistic had the other factors of production been available in years of adequate rainfall.

What has not been factored into these considerations is that of price of groundnuts and cereals; in the case of the latter the official price is relatively meaningless in the absence of an official buying program, except for relatively small quantities of seed. Thus, the official outlet which appeared to be developing at the time of the project design disappeared before Phase II start-up and the prices and volume of trade on the commercial market are scarcely admitted to exist, far less reported.

In sum then, to expect to have achieved the project goal year-on-year given the framework within the project has operated would be unrealistic and the blame for this can hardly be laid at the door of SODEVA. Similarly there remains no objective measurement directly related to production increases with which to justify or criticize SODEVA'S efficacy.

However, the GOS is in the process of formulating new policies in the fields of marketing, input supply and credit and when these come into operation there is every hope that the agricultural climate will improve. The judgement of the Mission ADO is that these policy changes will be carried through within a reasonable time frame.

Endogenous Factors Affecting Project Performance.

Changes in SODEVA Leadership and Personnel

In the course of the project there have been considerable changes in SODEVA staffing patterns, and in individual appointments of senior managers. The Director-General at the beginning of the project was replaced in 1981 by the present incumbent, who had previously been Director General of SOMIVAC and had had a long experience of project management, including AID-funded activities. The new Director General brought with him from SOMIVAC some staff members e.g. the head of finance, which resulted in a discontinuity of knowledge between project phases I and II. There has also been constant change of management staff between the regions and headquarters, resulting in a lack of constant supervision or executive memory for the project at field level.

As for staffing levels in general, the trend since the adoption of the new approach to the technology transfer in the face of diminishing funding has been steadily downwards. Table 5 shows the reduction of staff from 1980/81 to 1983/84 from 1,806 to 1,360 respectively.

There has been considerable discussion about the degree to which SODEVA has increased the proportion of civil servants in the organization, since they are a direct charge on the civil service budget as opposed to that of SODEVA itself. In the first place this is a rather false argument since the total charge of the service falls ultimately on the state. Examination of the data indicates that the reduction of staff has taken place more or less evenly, and the proportion of civil servants has remained more or less constant at about 22% as the 25% reduction of staff has occurred.

There has, however, been a change in the structure of the staff with an increase in the upper- and middle-level qualified staff at the expense of the lower-level field staff. Table 6 illustrates this change since 1980, and it would appear to be one which is well justified given the increased technical support which SODEVA now is in a position to offer to its field agents as well as the funding which USAID in particular has made available to this end over the period of two phases of the project.

Table 7 illustrates the level of staff, their qualification and distribution between the Dakar headquarters and CETAD on the one hand and the regions on the other. These data refer to 1982/83 but are unfortunately not available for previous years.

Changes in AID Staff. There has been significant turnover in USAID senior and project management staff since the PP for Phase II was completed. There was a change of Mission Director, a change of Deputy Mission Director, of Agriculture Officer, and three changes of project manager during this period. In addition, there have been at least three changes of local-hire assistant project managers, as well as an interlude when the present project manager was on home leave (two months) and his current local-hire assistant was on medical leave (two months).

It may also be germane that the project manager who was in place during the first years of project implementation was a personal services contractor. Although she had had this same kind of position, managing a project which also had a women's income-generating component in another USAID mission in the Sahel, this contractor had no formal background in agriculture, and no formal training in AID management systems. It is not the impression of the evaluation team that this project manager's status as a contractor *per se* had a negative impact on the quality of project management during her tenure. Rather, the choice of this person to manage a complicated, multi-dimensional agriculture production project may be open to question in retrospect.

It is also germane that during project implementation, there was a hiatus during which the Mission had no WID officer. Then, when a new WID Officer was hired, she was subsequently put to work on project design in the PDO. She is now part of a Human Resources Development Group in the PDO, and as of January, 1984, the project support functions of these HRDG members for specific agriculture division projects are to be formalized. In the interim, the WID Officer has also been made responsible for PVO activities, and has had major responsibility for the design of a new PVO project. This has meant that she

has had very little time available to assist in monitoring the WID component of this project during implementation. Similarly, another member of the HRDG, who has substantial professional experience in agricultural extension and in non-formal education, both of which are directly relevant to this project, has apparently not yet been given any role in supporting its management or implementation.

An additional relevant factor is the project management load of the present project manager. At present, there is no Deputy Agriculture Officer at post, which means that there is an unusually heavy management burden on each agriculture project officer. The Agriculture Officer has no project management responsibilities. The Phase II project manager, who took on this project about one year ago, also manages two other bilateral projects, two Title III activities, provides Mission backstopping to two CRSP's, the SAFGRAD regional project, and thus serves as the Division's research coordinator. Clearly, this means that despite his best attempts to follow this and the other projects in his portfolio carefully, it is almost impossible for him to monitor this complicated as closely as is required, and as he would wish. Given a number of errors of omission and/or commission that seem to have occurred before he took over the project, he has had an unusual amount of catch-up work to do, often in the absence of complete retrospective documentation and institutional memory. Some suggestions will be made below for ways in which these problems might be ameliorated.

Start-up and Implementation Delays. The PP for Phase II was approved in Septemberr, 1979. The Grant Agreement was signed in December, 1979. The contracting firm eventually chosen to supply the TA was able to field them by May/June, 1981.

The Project Implementation Letter file indicates that there were significant delays in responses from the GOS to requests for such basic project implementation items as approved signatures from the GOS implementing agency (six months between request and receipt). Further, for a variety of reasons, there have been considerable delays in AID's approval of SODEVA's annual budget submissions. In each year of project implementation, the annual budget has been approved well into that budget year (US and GOS fiscal years are not concomitant).

Initially, AID was operating on a disbursement system in which advances were made to SODEVA in terms of the approved annual budget. However, after the very negative findings of a 1981 Audit Report, this system was stopped, and AID adopted a reimbursement approach based on the submission of appropriate justificatory documentation by SODEVA, except for some categories of expenditure, for which AID was to make direct payments to suppliers (e.g., office equipment, construction, and some local procurement of commodities).

This meant that after the first year of implementation, SODEVA was required to pre-finance a considerable proportion of project expenses, including operating costs and salaries. To do so, once AID did not cover the GOS counterpart costs (beginning in 1982-83), SODEVA was forced to borrow

money to support project activities from Senegalese banks at commercial interest rates. This, in turn, was necessitated by the fact that the GOS did not initially supply the counterpart as had been anticipated by SODEVA.

Continued disagreements between the Controller's Office in the USAID and the Finance Division in SODEVA about what constitutes justificatory documentation, and what the terms of the Grant Agreement really mean, have meant long delays in reimbursement by AID, following equally long delays in submission of vouchers and supporting documentation by SODEVA. All of this has taken place despite the fact that SODEVA now has a nine-year history of working with AID under Phase I and II of this project (as does the USAID in working with SODEVA), and the fact that the SODEVA DG has an even longer history of association with AID projects.

To make matters even more complicated, there are a number of further funding issues that have arisen during project implementation. The 1981 Audit Report made a recommendation that a bill for collection be presented to the GOS for approximately $500,000 of overpayments by AID under Phase I. This was eventually done, and the funds were recovered by AID (SODEVA contested this recommendation of the Audit). This did little to repair already strained relations between the USAID and SODEVA. The next major issue was the question of a flat rate for reimbursement of operating costs by AID. SODEVA understood this to mean that a flat rate was a flat rate, and should be forthcoming without further supporting documentation. AID did not agree. This issue is still not resolved after two years of discussion.

The third major issue concerns AID's indemnity policy. Firstly, SODEVA had the impression that counterpart funds provided by AID need not be treated in the same way as non-counterpart funds; that is, they believed that AID's overall indemnity policy did not apply to the expenditure of these funds. Secondly, AID's policy changed mid-way through project implementation to the extent that a multi-donor meeting in Paris, it was decided that no indemnities would be paid from counterpart funds supplied by AID. Unfortunately, the AID project manager had not been informed of this policy change, and continued discussions with SODEVA on the basis of the prior policy. These discussions then had to be followed by further meetings to redefine AID's position and SODEVA's.

The next, and perhaps most major, funding problem relates to the matter of who was to pay the counterpart in 1982-83. Initially, AID had budgetted this amount as its contribution, given the financial difficulties of the GOS. However, AID was subsequently informed that this would not be necessary — the GOS would pay the counterpart itself. In the event, there was a hiatus before the counterpart reached SODEVA from the GOS. A GOS counterpart payments to SODEVA are given in a lump sum, and it is apparently difficult for SODEVA to determine which sub amounts are attributable to each donor project, or how the calculation is made. This interim had led to difficulties on SODEVA's pact in making reports to AID about its operating expenses.

The final, and most crucial funding issue arose when the GOS failed to meet the CP to provide a plan showing how it would meet recurrent costs beyond the end of the project. The USAID appears to have given the GOS a year's grace to come up with this plan. However, in April, 1983, USAID cut off funds to SODEVA subject to the receipt of an acceptable recurrent cost plan from the GOS. Funding was reinstated at the beginning of September, 1983. It is fair to note that AID did not cut off funding for all project components. Funding for long-term training was still allowed, as was funding for TA, and on-going construction. Nevertheless, this hiatus in funding, the particulars of which appear to have been poorly understood within SODEVA — added to the persistent problems and misunderstandings regarding the method of reimbursement and the requirement for supporting documentation from SODEVA — has meant that a number of project activities which could, in fact, have been funded directly by the USAID over the past two years have not been carried out, apparently because SODEVA thought that AID funding was not available from AID. This situation has had a particularly deleterious impact on the implementation of the WID component, as is discussed below.

An inordinate amount of the USAID project manager's time has been spent over the last twelve months in trying to sort out these funding and disbursement issues. The problems, however, persist. On the SODEVA side, the transfer of information between and among the DG, the Finance Division Director, and the Project Manager, as well as the technical staff who are in charge of submitting provisional budgets and implementing project components — training, WID, research, etc. — is apparently extremely poor. There has been a general impression on the part of the technical implementing staff, for example, that there has been a cut-off of funds from AID for two years, rather than the six months during which this was actually partially the case. It was only when the evaluation team began discussions with individual technical staff in SODEVA that the information flow began to permeate the system.

These problems have a great deal to do with why this project has a relatively large pipeline, often a sign of problems in implementation. The evaluation team feels that it would be erroneous to conclude that this is because SODEVA does not have the absorptive capacity to implement the project. Rather, the problems seem to be largely those of communications and management on the part of both institutions, and between them.

Economic Considerations

As Benor and Harrison say in their description of the Training and Visit method of extension which has had so much attention of late, "It is difficult to measure the quantitative effect of extension. In fact, agriculture is an extremely complex activity subject to the interaction of a great many factors which makes it almost impossible to determine in a precise manner to which variable can be attributed each yield increase."

Since this project aims at extension improvement and institution building, a formal calculation of the assumed returns to capital invested is not presented. Section I discusses the effect of changes in exogenous factors on project performance. It also notes the fact that USAID/Senegal continued funding despite these changes, apparently because it accepted the importance of continuing to develop an extension agency in the project area, even if the originally anticipated production increases would not be attained.

This relationship should then be viewed in the context of investments in Senegalese agriculture as a whole.

Although the team who presented with a wealth of documentation about Senegales agricultural policy and practice (see Bibliography) it proved extremely difficult to obtain reliable statistics on production in the project zone on the basis of which an economic analysis of project achievements to date could be based. Regretably, the SONED Beneficiary Survey did not provide this kind of information in an exploitable form. Similarly, the several years of data on production and marketing that have been gathered by SODEVA's Planning and Evaluation division (DEP) have not yet been analyzed. With the new micro-computer just provided under this project, this situation should soon be remedied.

Given available data, and the premesis of the project and this evaluation, it is useful to examine expenditures by and for SODEVA in the context of a) the share of the Groundnut Basin in the national economy; and b) the success of AID's institution-building objectives under this project in terms of its funding levels. These factors should then be judged in the context of investment in Senegalese agriculture as a whole.

In 1983, Waterbury in his paper on the "Dimensions of State Intervention in the Groundnut Basin, offers the following data relating to the area;

Total area	69,000 km^2(34% of Senegal's surface)
Cultivated area	1,920,000 ha. (75% of national total)
Total population (1976)	2,564,250 (50% of national total)
Rural population (1976)	2,138,090 (60% of national total)
Cereals production	c. 65% of national total
Groundnut production	c. 75% of national total
Cattle production	c. 46% of national total

The following data for 1982 are calculated on the basis of the official prices which, in the case of groundnuts, is realistic since a guaranteed market exists. In the case of millet and cowpeas, the calculation may well understate the value to the farmers, since these products are sold locally. In a year of scarcity such as the current one, local market prices exceed official ones.

CROP	GROUNDNUT BASIN		THIES		DIOURBEL		NATIONAL		
	PRODN 000 MT	VALUE CFA million	PRODN 000 MT	VALUE CFA million	PRODN 000 MT	VALUE CFA million	PRODN 000 MT	VALUE CFA million	% of national
Groundnuts	807	56,490	143	10,010	108	7,560	1,092	76,419	74%
Millet	547	27,350	104	5,200	61	3,050	585	29,250	94%
Cowpeas	12	516	3	36	2	86	13	559	92%
Total		84,356		15,246		10,696		106,228	79%
Total US $ Million		211		38		27		266	

To these products must be added the by-products such as straw, the sale of which contributes to the family income.

Details of the output from livestock husbandry are somewhat more difficult to obtain, but applying Waterbury's suggested figure of 46% to the value-added figure for 1982 which was reported as 44 billion CFA (US $ 110 million) gives a value-added from the Groundnut Basin of some 20 billion CFA (US $ 50.6 million).

A major purpose of both phases of the project was to create a link between the farmer and research, a relationship that had been lacking for many years. Currently, agricultural research in Senegal is receiving major funding from variety of sources, including the World Bank and AID. The funds from all sources proposed for agricultural research are estimated to be of the order of US $ 100,000,000 over six years.

It is in this context that the investment which AID has made in SODEVA's activities must be judged. The annual cost of the SODEVA operation is 1800 million CFA (US $ 4.5 million). This total includes project assistance investments. It also includes civil servants as well as contract employees on the staff. It is unlikely that the "withering away" process advocated by the GOS can be taken much further without SODEVA completely losing its capability, although there are functions, such as input supply, which could be dropped with consequent savings.

However, the recurrent cost plan which was prepared in response to the AID project's condition precedent indicates that this figure is to be reduced to some 872 million CFA (US $ 2.2 million) in the first year after the project ends, and to 525 million CFA (US $ 1.3 million) four years later. These figures assume that the number of civil servants who are not charged to the SODEVA budget remains unchanged.

The test of effectiveness will be the capacity to transfer technology when the literacy training programs and audio-visual approaches have had time to prove themselves. To the extent that the present project assists these efforts and brings to effectiveness the techniques proposed, the present program should continue in order to justify the investments in buildings and equipment which have already been made.

If the research funding is apportioned to the Groundnut Basin pro rata to its production, then the ratio of research funding to extension is of the order of 2.5/1. This ratio could be further changed in favor of research if some of the functions of SODEVA were abandoned. Further analysis should be undertaking, however, to see what the implications are of attributing them to the private sector. That is, there would be no savings to the GOS if they were abandoned by SODEVA, but then merely transferred to another parastatal organization such as SONAR, remaining a burden on the national budget. In the event that SODEVA is able to maintain its cost reduction targets as to trains more paysans relais, who will in turn provide extension services to other farmers, then the ratio in favor of research will become nearer to 9:1.

III. PROJECT ELEMENTS

Goal, Purpose and Objectives.

The Project Goal, as given in the PP Logical Framework, is "increased productivity in the Groundnut Basin of Senegal to assist in meeting the Government's long-range goals of food self-sufficiency and an improvement in the life of the farm family." The Project Purpose, to attain this goal, is "to improve extension and research capabilities of the GOS to reach the entire farm family with improved cultural recommendations designed to increase food production and farm incomes in the Groundnut Basin."

The major activities of the project, through which this purpose was to be achieved, were as follows: 1) up-grading of the staff of SODEVA to meet the evolving needs of the project area; 2) strengthening SODEVA's ability to produce and use audio-visual extension aids; 3) enhancing SODEVA's ability to collect and analyze data on the macro and micro-economic effects of its activities in the basin; 4) tightening the link between applied research and extension in the basin; 5) creating a Women's Extension Unit within SODEVA to develop and pursue a strategy to ensure women's access to information, factor inputs, and other sources required to reinforce their economic role.

LOP funding to accomplish these objectives over a period of five years (the limit on AID LOP at that time), was $7.7 million, of which approximately $4.5 (58%) was to be disbursed in local currency. The breakdown among TA, commodities, training, and other costs was to be as follows:

Funding Category	U.S. $000's LOP
Technical Assistance	1,080
Training	365 *
Commodities	1,015
Other Costs:	
Construction	655
Operations	2,985
Inflation and Contingencies	1,600
	$7,700

The GOS contribution was to total $7,570,000, primarily for salaries and other recurring costs, the burden of which it had accepted to assume gradually over the LOP.

There were at least two different sets of "objective measurements" for the cereals production increase component of the project, those presented in the Technical Analysis for the PP, and those presented in the Log Frame (for which specific area and yield increase amounts were not included). SODEVA seems to have accepted the targets indicated in the Technical Analysis, since in March, 1982, it presented to AID a document revising these objectives, which AID apparently accepted. In this document (March 27, 1982), the departmental area devoted to cereal production, and the estimated yields that were to be achieved by the end of the LOP are revised, given macro-economic changes affecting input provision, including credit, and the then new Contract-Plan between the GOS and SODEVA, which established a range of target areas and yields, as well as a number of other success criteria, for SODEVA's entire range of activities in the Basin (Lettre de Mission, February, 1982.)

SODEVA, in providing this revision of production targets was also, presumably, responding to the findings and recommendations of the 1981 AID Audit Report although it had already provided a specific response (September, 1981). On the basis that expected cereals (millet) yield increases had not been obtained despite the efforts of the Phase I project, and those of Phase II to that date, the Audit Report recommended that "the Assistant Administrator/Bureau for Africa (AA/AFR) not expand the second Senegal Cereals Production Project (No. 685-0235) to the Departments of Tivaouane and M'backé until such time as USAID/Senegal can demonstrate that the expanded extension service in the Thies, Diourbel and Bambey Departments is achieving production increases as a direct result of AID's assistance." The level of increase cited in the Audit Report was 70%.

* The specific budget breakout presented in the Logical Framework is somewhat different, including $100,000 additional for training, and specifying $600,000 for WID, and $466,000 for off-station research.

The Mission questioned this Audit Report recommendation from the outset, and ultimately persuaded the then-AA/AFR not to accept the recommendation calling for no further funding of Phase II. The project objectives as enumerated above were maintained in full, with the implicit exception that the yield and area increases originally predicted for millet were revised in accordance with the document prepared by SODEVA. The Audit was closed in 1983.

As will be seen below, it appears curious in hindsight, that the USAID and SODEVA did not take advantage of the issues raised by the Audit Report to revise some other project objectives, especially given their knowledge that the macro-economic and policy situation had changed substantially since the project had been designed. Most of these policy and institutional changes had, indeed, occurred before the grant agreement was signed. Further, they had been clearly analyzed and discussed in the AID-GOS Joint Assessment of 1980, especially in the papers by Elliot Berg and Sheldon Gellar. Had this been done, a number of problems that are discussed in this report might well have been lessened or avoided entirely.

Input-Output Analysis.

The inputs for this project, as specified in the log frame were a) technical assistance, b) training, locally and abroad, c) research, d) local manpower, and e) women's extension activities, These inputs were to yield the following outputs by the end of LOP; a) field level extension agents upgraded in extension methods to promote production themes at the farmer level; b) women's extension unit operational; c) off-station applied research being conducted by CNRA; and d) SODEVA expertise in audio-visual techniques and extension developed. In what follows, each input-output relationship will be discussed separately, and where possible, inter-relationships between and among inputs and outputs will be evaluated as to their relevance and success to date.

Technical Assistance. Both long and short-term technical assistance was planned in the PP, and provided during implementation. Three long-term US specialists were provided under a contract between AID and Aurora Associates, a private, minority-owned Washington-based consulting firm. The SODEVA Director General was included in the selection process for the TA specialists. The contractor was to provide an agricultural economist, an agronomist, and a specialist in audio-visual methods and extension techniques for the long-term positions, and several additional short-term consultants, in the areas of training, livestock, and horticulture, During implementation, some of the short-term TA requests were revised. When SODEVA and AID became interested in developing a terms of reference for a master planning effort for the Groundnut Basin, short-term TA was provided by Aurora under this contract to develop that terms of reference.

Long-term technical assistance through Aurora has encountered a number of problems. First, the agricultural economist/team leader who was initially brought on board was fired after a year on the job, due to financial

malfeasance and lack of substantive performance. Subsequently, the agronomist was made team leader, and has maintained that position to date. It took only 2 months to recruit and field the replacement agricultural economist. The audio-visual specialist profile that had been requested turned out to be difficult to recruit against. The specialist who was fielded had the audio-visual background required, but was apparently somewhat lacking in experience of other types of extension techniques. On the positive side, all three of the long-term specialists had good French language capability and prior developing country experience; two had prior experience in Senegal.

There was a difference of view between the USAID and SODEVA about the role and functions of TA specialists within SODEVA which exacerbated by these individual specialists' problems, and in turn may have been exacerbated by them. SODEVA and AID agreed to the scopes of work for the specialists when the PP was finished. With the change in SODEVE Director General, which occured before the TA selections were finalized, SODEVA put forward a different view. The new D-G believed the specialists should be placed in different SODEVA hq divisions, where their skills were respectively most germane, and that they should be completely integrated into the SODEVA organization chart and hierarchy, reporting directly to their respective division heads. This meant that they would not be working as a team, and also that they would not have direct SODEVA counterparts. The D-G, who interviewed each candidate individually in the U.S., also substantially rewrote the scopes of work for all three specialists.

Most of this was worked out between Aurora Associates, the Contractor, and SODEVA. While the USAID/ADO apparently agreed to these changes, they were not documented in the USAID project files, nor was the Aurora Contract amended accordingly.

Subsequent changes in project management personnel in the USAID, given this gap in the documentation, have led to a number of allegations about the utility of the TA specialists given their organizational placement in SODEVA. There has been a lack of consensus within AID and between AID, Aurora and the TA specialists themselves, as to the gravity of the constraints they are operating under, and whether or not they are operating effectively. Similarly, SODEVA senior management from time to time has expressed dissatisfaction with the attitudes of some of the specialists, and/or their willingness to become "fully integrated" into SODEVA hierarchy as requested.

The agronomist, who does not have an official counterpart at SODEVA hq, but rather works with agronomists in the regional-level DAPs (project technical implementation groups) reports to the head of the Technical Operations Directorate (DTO). She has been delegated the responsibility of representing SODEVA as the technical expert in the joint ISRA/SODEVA applied research efforts encouraged and funded by the project.

The agricultural economist, originally assigned to the Planning and Evaluation Directorate (DEP), subsequently requested reassignment to the DTO so that she and the agronomist — and the a-v specialist — could work more

concertedly together. This also coincided with parts of her scope of work, especially those relating to the development of a system for economic analysis of the results of the joint research trials. However, it also meant that her access to, and impact upon, the planning and evaluation activities of the DEP — both at hq and at regional-levels—was subsequently hindered.

The audio-visual specialist was assigned to the then training division, which is part of the DTO, whose director is also the SODEVA Cereals II project manager. The premise on which the recruitment of this specialist had been based was that construction of the audiovisual unit at the SODEVA training center at Pout would be finished by the time he arrived, and that he would be posted there, along with the SODEVA audio-visual team. In the event, the construction of this project-funded unit was completed just as the specialist resigned his position in June, 1983, and it is only now becoming operational. This delay in availability of appropriate facilities apparently prejudiced the performance of the specialist, as did the lack of available transport, and significant delays in the procurement through AID of audio-visual equipment and materials, which has not yet been completed.

Given the resignation of the audio-visual specialist, SODEVA has recently requested that Aurora Associates recruit a short-term replacement, for a period of up to six months. A candidate has now been identified and approved by SODEVA and AID, pursuant to a one-month trial period. This short-term specialist will be posted to the Pout center, and live in Thies. The other two long-term specialists will, however, remain posted to SODEVA hq, where they are now both reporting to the director of the Technical Operations Division (DTO).

One key question that arose in the process of this evaluation is whether, and to what extent, the posting of these two specialists at the SODEVA hq in Dakar was the appropriate course to take, and/or has prejudiced their utility. It appears that this has not presented any significant obstacle to the performance of the agronomist who has had frequent access to regional and departmental-level SODEVA and ISRA colleagues. Partly due to internal SODEVA organizational problems, the same has not been the case for the agricultural economist. Posting this person to the field would not, however, have solved these problems.

There is presently a request from SODEVA to AID for an extension of TA contract of the agronomist/team leader for an additional six months. If AID concurs, an extension of the PACD would be required. This will depend on the staffing and funding situation at the time. The SODEVA view is that if the current TA agricultural economist prepares the methodology for the evaluation of the various components, as she is and has been doing, then SODEVA has the necessary staff to continue the application of that methodology.

A further problem appears to have arisen in terms of SODEVA's utilization of the results of short-term TA efforts. About two years ago, an FAO audio-visual consultant was provided to SODEVA. This individual apparently counseled strongly against purchase of mobile audio visual vans which had been

designed into the Phase II project. On the basis of that advice to SODEVA, USAID project management at that time de-emphasized the procurement of these vans and, at least at one point, discussed with SODEVA other uses for these funds. Subsequently, however, the SODEVA Project Manager, who is also the Training Director, indicated to the new USAID Project Manager that this FAO consultant's recommendation had not been accepted by them, and that the vans should be procured. In part due to this ostensible change of mind, there have been substantial delays in the procurement of these vans and the accompanying equipment. This situation seems, in addition, to have persisted despite the presence of the project-financed long-term audio-visual specialist.

This example serves to illustrate a broader problem, that of the GOS perception of TA in general. At the meetings held between GOS and the donors it was publicly stated that one of the conditions which was imposed on Senegal was the acceptance of TA when loans or grants were made. This perception was echoed to some extent in SODEVA, although the requests for the extension of and replacements for the slots identified in this project reflect acceptance of TA, at least in priciple.

The design team in this case called for specific kinds of long-term TA in order to provide an institution-building capability in the areas of evaluation (the agricultural economist), research/extension linkages (agronomist) and audio-visual/extension techniques. When the grant agreement was signed (1977), there were only two graduate agronomists on the SODEVA staff, and no agricultural economists. In fact, senior-level graduates comprised only 1.2% of the entire SODEVA staff in 1980, and still only 3.7% in 1983, when the staffing levels of SODEVA overall had been decreased by 25%. Thus, on institution-building grounds, given the various project objectives, this rather minimal level of long-term TA appears to have been justified, especially when the switch to "mass" approaches to extension is taken into account, along with SODEVA's mandate to collect agro-economic statistics, and its mission to assist in the planning and implementation of applied agronomic research.

Nevertheless, in implementation, the long-term TA positions were assigned differently than had been anticipated following the project design team's logic. While the agricultural economist was, at first, assigned to the DEP, a much more stark division between the DEP and the DTO eventuated than was foreseen, so that her functions were substantially limited rather than enhanced by this institutional location. Meanwhile, the other two specialists were assigned to the DTO, SODEVA's implementing arm where, at least superficially, they were able to have more of an impact on day-to-day operations. Ultimately, the agricultural economist was reassigned to the DTO, but in the process, her access to DEP activities and documentation was severely curtailed, while, at the same time, it was difficult for her to become integrated into the work of the DTO, especially in terms of its liaison functions with ISRA.

There is evidence to suggest that some of these problems really arise from the management style within SODEVA, which allows little delegation of

authority or a generally decentralized approach. Aurora Associates' hq office has attempted to help resolve these problems. The V-P International Programs has come to Senegal a number of times to meet with the Mission, the SODEVA DG, and the TA team. One such visit resulted in an attempt by Aurora to develop a system for monthly workplans for the TA team members. Unfortunately, this plan backfired, and was not accepted by SODEVA. Rather, it was seen by them as an inappropriate intervention from Aurora, whose role in the project process was poorly understood.

Creation of a WID Unit in SODEVA.

A key element of the project design was the creation of a WID Unit within SODEVA, and the implementation of a variety of income-generating activities by women's groups in 28 villages in the project area. A Senegalese woman sociologist was hired by SODEVA as WID Director in advance of project implementation, and at first was posted at the Dakar hq. Subsequently, SODEVA decided that this specialist should be relocated to Thies, so that she would be able more effectively to supervise activities of the WID component in the field. Additionally, she was given the position of DEP Director for the Thies Delegation, thus having to shoulder two wide-ranging responsibilities.

The PP design had anticipated that three monitrices would be provided to SODEVA by Promotion Humaine to assist the WID Director in design and implementation of the details of the WID component. This, however, did not happen. Eventually, when it became clear that nothing was forthcoming from P.H., SODEVA recruited two women and arranged for them to be trained for the three months each at local Maisons Familiales, which are run by The Ministry of Social Development.

Once trained, the two monitrices carried out diagnostic studies at the village level, as part of an effort at in-service training as well as sub-project design. At present, the WID Director and both of the of the monitrices are based at Thies Delegation headquarters. They travel from that base throughout the project area, but often encounter mobility problems, since SODEVA has moved to a motor pool model for transport, and there is no vehicle specifically allocated for the WID Unit staff. There is no deputy WID Directortor. Thus, when the WID Director is very much involved in her responsibilities as Thies DEP Director, WID activities sometimes flag.

The monitrices travel throughout the project area, liaising with the (male) extension agents, and supervising and animating women's goups in their implementation of sub-project activities. In Diourbel, the WID component has been "fully integrated" into the Delegation-level structure. That is, WID activities there are only marginally supervised by the WID Director, and monitrices. This arrangement was made, apparently, on the assumption that WID

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* The PP provided that the WID Director should have a higher salary than she in fact receives. SODEVA decided that paying her more than other equivalent cadres would be bad for overall morale and her ability to function effectively within the organization.

activities would, thereby, be taken more seriously by all SODEVA staff in Dioubel region, while, if a monitrice or an assistant WID Director had been posted to Diourbel, the WID program would have been "peripheralized".

While this may be a logical viewpoint, there is evidence to indicate that WID activities in the Diourbel region have been less successful, and less effectively monitored than is the case in Thies. Similarly, if this logic really applies, it should have been applied to Thies as well. Instead, Thies benefits from the presence of all the WID staff, and there seems to be no intention to change this balance during the remaining LOP. Meanwhile, there is a fairly evident lack of follow through at the hq level in Dakar for WID activities, given the assignment of the WID Director to the region. This is shown by the fact that no progress has been made in getting the Hydraulics Ministry to provide the planned TA for well-digging and well improvement which was a critical element of the project design, and the fact that no funds have been provided for the purchase of additional millet mills and millet threshers despite the fact that a number of women's groups have put up their part of the funds required.

On the Mission side, management of the WID component has left a good deal to be desired. That this is the case is somewhat surprising given a) the presence in the Mission of a WID officer at the beginning of the project and again during the second and third years; b) the assignment of a female contractor as project manager for the Cereals Project in the USAID (the person in question had prior experience in the design and implementation of WID projects); and c) a generally supportive aproach to WID activities on the part of senior Mission management. The PP WID component received praise and wide distribution in AID/W.

A question the team was asked to explore in the course of the evaluation is whether or not the WID component, if it has flagged, has done so because it was "wished on" SODEVA. This has sometimes been the case for WID activities sponsored by USAIDs in other country environments. In fact, in this instance, SODEVA appears to have been willing to go ahead with the appointment of the WID Director before USAID funding for the position was available. The present DG is genuinely supportive of the WID component, and cites it as one of SODEVA's key innovative activities in the Groundnut Basin. Additionally, the two female long-term TA specialists have done their best to provide additional support to this component, although in some respects, their help has been refused, largely because internal SODEVA divisions of labor constrain across-the-board interaction and cooperation.

The present USAID project manager admits that, when establishing his action priorities when he took over the project, he tended to neglect the WID component so as to focus his attention on a number of financial management problems and some procurement delays, as well as on the applied research component. As a result, a number of problems arose in WID component implementation that went unresolved.

Training of Extension Workers.

The target set in the PP Log Frame for extension worker training was, by end of LOP, "204 EB's (encadreurs de base) and VG [now ATCR's] receive in-service training, and 24 additional ATCR's employed to bring extension services to target groups". At the time, the premise seems to have been that these agents would be working exclusively on the extension of agriculturally-related themes or messages, using the "elite" — individual contact — method then in place, supplemented by the newer "mass" approaches of working with farmer groups, using audio-visual support technologies.

By the time Phase II entered implementation (1980), however, SODEVA had substantially altered its conception of its approach to extension in the Basin, and thus its programming of agent training and up-grading. To understand what happened, it is important to understand SODEVA's logic in the context of the changing political and policy context.

Briefly, with the GOS decision to reorient and renew the cooperative movement, SODEVA saw a role for itself in helping the new village-level sections or groups to understand the principles of cooperation, and to achieve a minimum level of management and project planning skills. The basic criterion, in SODEVA's view, was functional literacy. In order to reach the maximum number of villagers, SODEVA conceived of an approach to literacy training "en cascade" — from the training of trainers (CETAD staff and ATCR's) through the training of EB's, who would then train "paysans-relais" who, in turn, would train the members of their village sections. Each village section was, eventually, to have a series of officers who would manage its cooperative activities, and also the "paysan-relais", who would be its agricultural paraprofessional extension agent. This approach is globally referred to as "auto-encadrement", and is one of SODEVA's responses to its charge to eventually "wither away" and to provide a less top-down and centrist approach to extension in the Basin. It is also seen by SODEVA as the least-cost approach to reaching the maximum number of farmers with a combination of literacy/management skills and appropriate agricultural extension messages.

This is a particularly important concern given the withdrawal of donor funding, the requirement for the GOS progressively to absorb recurrent costs of SODEVA's activities, and the associated onus on SODEVA to lay off an additional number of field-level agents (another 30 for 1983-84). Those who are laid off, after their literacy training, are supposed to become "reintegrated" into rural life, as model farmers, given their experiences as EB's working for SODEVA, some for as long as 18 years.

At present, the average EB is responsible for reaching 25 villages, or about 2,500 male farmers, aside from his activities as a literacy instructor, which also involve teaching members of women's groups in those villages that have been included under the WID component. The ATCR supervises 3 EB's, and is himself posted at the Communauté Rurale level. There are 65 ATCR's in the project areas two regions.

With funding from Phase II, this functional literacy dimension has advanced more or less according to SODEVA's schedule. It is this dimension, as well as the periodic training of ATCR's in the nature and functioning of the joint ISRA-SODEVA applied research trials, plus some short courses in gardening and crop protection, which constitute the extension agent "upgrading" under Phase II to date. It should be noted that this auto-encadrement system is not mentioned in the official project documentation, and that the USAID appears to have simply gone along with it without altering its targets or changing the funding arrangements. In other words, extension agents who were formerly illiterate (60% of all of SODEVA's EB's at the beginning of Phase II) were upgraded by making them literate, certainly not a cause for complaint. However, the content of their literacy training is primarily related to cooperatives, and how to teach functional literacy, rather than to agriculture. This does not really conform to the project's logic or objectives.

A training consultant's report, prepared in the summer of 1982, essentially went along with the auto-encadrement, functional literacy approach, primarily included a schedule of how this was to be achieved, and recommended significant additional staffing to manage the program. It also made further recommendations for increased staffing levels in terms of audio-visual production and dissemination, and the creation of a national training clearing-house within CETAD. This is curious given the overwhelming impetus to cut down SODEVA staff overall, the accusations by donors that SODEVA had become top-heavy in its staffing pattern, and the fact that AID had never formally approved the functional literacy approach. Further, the report does not include any illustrative budget, but merely states several times that the approach it proposes will be cost-effective (Rideout, 1982). It should also be noted that while AID complains that SODEVA never officially responded to the report, the Contractor points out that the USAID never responded either.

In the event, it turns out that at least one major recommendation of the report was taken up by SODEVA — the idea that there should be a separate training directorate, given that training was becoming such a significant part of SODEVA's activities. Training had formally been a division of the DTO, with the CETAD depending from it. Instead, however, of making the CETAD director the head of the new Training Directorate, that position was retained at the center, with the DTO chief also wearing that hat, seconded by an Assistant Director for Training. The CETAD Director, meanwhile, because of his personal seniority, has the same rank as a Délégué, and therefore must report to someone who is even more senior.

The PP anticipated the creation of a training methodology unit within the CETAD. Due to staffing constraints — and the underutilization of the long-term training component — this has not taken place. Instead, there is only a literacy training sub-unit which should have been part of this larger and more inclusive entity. If SODEVA is to continue its emphasis on literacy training and auto-encadrement, and if the CETAD is eventually to become the crux of the Training Directorate, this kind of unit — closely allied with the audio-visual unit — is desirable.

A review of SODEVA documents regarding training from 1976 to 1983 indicates that despite the TA provided under Phase I, and later under Phase II, the training capability of SODEVA is still not well-organized or well-deployed. For a number of reasons that are discussed elsewhere, the audio-visual component is particularly behind schedule. A number of persistent problems of internal organization remain to be solved some, though not all, of which have funding implications.

The most recent figures indicate that from 1981-1983, CETAD trained the following personnel for all of SODEVA:

YEAR	GRADE	SUBJECT	TIME	TOTAL	
1981	EB	Gardening	3 days		
	EB	Literacy	5 days	32	
	EB	Gardening	3 days	28	
	EB	Literacy	5 days	7	
	EB	Gardening	3 days	18	
					(103)
1982	ATE (1)	Convert to ATCR	13 days	14	
	EB	An.Traction	5 days	4	
	EB	Crop Protection	5 days	41	
	AVS (2)	Gardening	3 days	19	
	AT (3)	Init.Training	30 days	10	
					(88)
1983	AVS	Literacy	13 days	11	
	Int.	Coding	6 days	76	
	AVS	Gardening	2 days	11	
	Account.	Retrain.	2 days	30	
	AT.	Init.Training	34 days	30	
	Int.	Init.Training	17 days	17	
	Agronomists	Ag.Machinery	3 days	2	
	Documentation Asst.	Retraining	8 days	5	
					(182)
				Total	373

(1) ATE: Agent Technique d'Elevage
(2) AVS: Adjoint à la Vulgarisation et aux Semences
(3) AT : Agent Technique
Source: SODEVA, CETAD, Sept. 1983

Thus, 50 EBs and AVSs were given literacy training; 14 ATE's were upgraded into ATCRs; 83 EBs and AVSs were training in gardening; 4 EBs were trained in animal traction, and 41 EBs were trained in crop protection. Again, these are the figures for SODEVA overall; there is no separate breakdown available for agents who are posted in the Phase II project regions of Thies and Diourbel. If one subtracts those who are neither EBs nor those being upgraded into ATCRs, the total trained is 192 for the whole organization (and it is not clear that some were not given more than one kind of training). Thus, it would be fairly safe to conclude that, with 10 months of LOP left, the PP training target is unlikely to be reached.

A separate point may be made about training under the WID component. It was originally foreseen that the three monitrices (now only two), would be trained in food preservation at ITA, go on stages to the US for training in horticulture, and would, in turn, be able to train village-level women as

vulgarisatrices (paraprofessionals), who would then train other women. Similarly, training was to be provided for six months each for matronnes from those WID component villages that requested it, and for three months each for agents sanitaires de base. Since project implementation started two years ago, funding for the majority of this training has been considered by SODEVA to be "unavailable" since AID has moved to a reimbursement rather than an advance method of funding, and SODEVA has been borrowing money from the banks in order to implement project activities. Additional training activities for village women have similarly been postponed or dropped, which adversely affects the project's credibility and SODEVA's.

Despite these funding problems, the logic of the WID component remains sound. A number of the village groups that have been operating for three years or longer — that is, since before Phase II began — are now at a stage where they need to move on to new income- generating activities. This implies an urgent need to review the training possibilities, and to initiate appropriate training as soon as possible.

The ISRA/SODEVA field trials can also be considered as an important component in the training of SODEVA agents. In the spring of 1982, about 20 agents from Thies and Diourbel regions received one-week of training at CNRA from ISRA scientists. The objective was to help field agents to better understand research methods, familiarize them with research programs conducted at CNRA and prepare tham for the joint ISRA/SODEVA field trials. The training was found very useful by all participants. The main complaint was about the short duration of the sessions. The CNRA instructors were not well informed in advance about different levels of participants'education and that caused some difficulties in finding the proper instructional approaches.

In spite of the initial administrative problems on the part of SODEVA in the spring of 1983, some 30 ATCRs eventually received two weeks of training at CNRA. In a subsequent evaluation most participants praised the sessions. However, two weeks still seemed too short a time for appropriate training.

Before the beginning of the growing season, the SODEVA agents participating in the ISRA/SODEVA off-station trials are twice called to Pout (CETAD) for detailed discussions about the preparation and execution of the upcoming trials. The ATCRs and EBs also benefit from frequent contacts with ISRA researchers during field trials since, as a rule, a SODEVA agent is generally present when an ISRA researcher makes a call at an experimental plot. The annual ISRA/SODEVA field tours to trial sites may also be viewed as supplemental training for SODEVA agents and representatives at all management levels.

ISRA/SODEVA Protocol

As part of Phase I of the Project a Cellule de Liaison was created at the CNRA at Bambey whose function was to fill the gap which has traditionally separated research and extension. While the cellule has undertaken a series

of useful studies on the socio-economic impact of the technical packages, its disparate functions, semi-independence from budgetary control of either CNRA or SODEVA, and limited staff in relation to assigned tasks, have meant that the cellule has not always responded to SODEVA's needs.

In order to better define the close working relationships between ISRA (CNRA) and SODEVA and delegate mutual responsibilities, a Protocol was formulated and formalized in January, 1980. The Protocol adopted the principal objectives as proposed in the Project Paper, determined rules and procedures for their implementation, established regular meetings and specified the mode of cost coverage.

It is generally agreed that the Protocol has been observed by both parties and that it established a sound link between research and agricultural extension. The framework of the link is based on two annual meetings of ISRA researchers with SODEVA representatives and one extensive field tour to off-station trial sites for ISRA researchers and SODEVA representatives as well as agents at all levels. The purpose of the first meeting (March) is to prepare an action program for the coming season, the purpose of the second one (April-May) is to evaluate results of the preceding season. The field tour is an opportunity for all relevant personnel to examine the current status of trials and to discuss related problems with participating farmers.

In addition to these annual activities, ISRA researchers meet each month with the SODEVA coordinator from Dakar and all personnel responsible for the project trials in Thies and Diourbel regions. The meetings are alternately held at CNRA and Thies or Diourbel headquarters. They serve to coordinate their mutual activities in greater detail and to prepare action plans for the following month.

During the trial season ISRA researchers meet with SODEVA agents (ATCR, ED) directly responsible for individual experiments as frequently as necessary for the supervision of participating farmers and for the execution of appropriate treatments and measurements.

Although not all ISRA-SODEVA encounters are without differences of opinion, a spirit of mutual respect and constructive cooperation is reported to prevail. SODEVA extension workers benefit from the closer contact with current research, and ISRA researchers learn a great deal about the feasibility of new techniques as applied at the farm level. Participating farmers and their neighbors highly appreciate the advice and services provid d by both institutions. Since the ISRA/SODEVA research/extension link was created and has been maintained mainly through this project, it can be listed as among the most important project achievements.

To further broader ties of extension with research the representatives of other research organizations should be invited to participate in the ISRA/SODEVA meetings. To improve the management of funds allocated for the off-station trials, the budget responsibilities of ISRA and SODEVA should be redefined in the protocol.

Data Collection and Analysis.

As was described in the PP, SODEVA headquarters is responsible for technical backstopping and advice, administrative oversight and financial accountability.

The DEP.

At the time of the project design the function of programming and evaluation were part of the Technical Directorate but this had not been created as a separate division. The Direction d'Evaluation et Planification (DEP) is responsible for the preparation of projects as well as the evaluation of ongoing activities. Included under the control of this division is the library. The head of the DEP is a sociologist.

The DEP division responsible for planning future projects and responding to data requests from the Ministry of Rural Development is headed by an economist with assistance from other specialists on the headquarters staff, including the TA agricultural economist in some instances. This planning division maintains that it has not been able to function as it would wish because of ad hoc calls on its time spent responding to ministry demands and in the preparation of position papers for action with other bodies. It would seem likely that this will continue to be so, but it is a necessary function of SODEVA to so respond.

The second division is concerned with the evaluation process and concerns itself with all SODEVA's field level activities. This division of the DEP links most directly with the regional DEP staff which supervises the field level work and does some analysis of results for the regional annual report. The main source of data are two surveys which are based on continuous samples and have been conducted now for almost as long as SODEVA has been in existence.

The first is an agro-economic survey which SODEVA conducts each year and based on a continuous sample of some 1200 farmers. This detailed survey is conducted by about 80 enumerators who live in the villages with their informants. The survey has unfortunately not been analyzed since 1979 so that there is a rich vein of material awaiting exploitation. Since the acquisition of an Apple III computer through the project and hiring of a programmer, the analysis of this material is progressing.

The principal areas of enquiry are population, farm equipment and buildings, financial outlays, food stocks, cropping and end use of the output, inputs (quantity and cost), the animal production of the holding and other costs and revenues. As with the evaluation of the joint trials it would be advantageous if there were more labor hour data in order that the various operations could be evaluated on the basis of the returns to labor. This would also improve the basis for judging the suitability for extension of proposed new techniques.

One could criticise the sample as not being randomly selected and not being replaced regularly, but this is the trade-off situation in which most such surveys find themselves, where the value of enumerator/respondent relations has a premium in terms of the value of the information furnished. It would be valuable if a smaller sample chosen at random could be surveyed to compare with the main sample but, at present, the means for doing this are limited.

The representativeness of the sample will be testable to some degree against the agricultural production survey which also conducted each year to furnish data for the MDR as well as for SODEVA's own use. This is impractical until such time as the staff have caught up with the analysis of the agro-economic survey but can be considered in the future.

In terms of manpower the capacity of DEP to undertake the evaluation program is good, but it is felt that the statistician should be offered a short course in farm management since his background in demography. If the project is prolonged then perhaps the possibility of a member of the DEP staff taking a masters degree in agricultural economics could be considered further. This would improve the interface between SODEVA and the farming systems research being developed within ISRA.

Under the MSU Farming Systems Project, a computer methods workshop is scheduled for Spring, 1984 to benefic ISRA staff. It would be economical and substantively appropriate for some SODEVA staff to be included, especially since this will take place in Senegal. Both sets of technicians would then be exposed to the same orientation, which would facilitate their continued interaction in the analysis of applied research trials results.

The second main survey is on production and area, and is carried out during the growing season by the extension staff. The sample is not the same as in the previous survey but involves three villages per Rural Community and three farms per village. The resulting data are analyzed at the regional level and supplied to Dakar and included in the region's own annual report.

In addition to these surveys the DEP staff keep track of the other activities and record the literacy training, reafforestation, input supply activities etc., taken place in the region each year. For this effort there has been an increase in the professional staff both at headquarters and at regional level, as is reflected in the discussion on staff changes.

What is most lacking now is some small improvement in the physical means of analysis at field level - apparently small programmable calculators have been promised but not supplied - and some improvement in means of transport which is very limited at regional level.

The third area of activity which the DEP is developing is that of social surveys in order to have a better understanding of farmer motivation. The sociologist in charge of this work has been with the organization for about a year but as yet little has been achieved for want of means. The recruitment of special enumerators for these enquiries requires funds which are not

available, but this division is anxious to look at the sociological aspects of some of the extension messages e.g. ploughing and the reasons for their adoption or rejection. This division is currently preparing a study on behalf of the Direction of Cooperation.

The DTO.

The other main Section of SODEVA is the Direction Technique et d'Operation (DTO) which is responsible for the execution of SODEVA's activities. Again, the director is a sociologist who has has long experience in the SODEVA organization both at Dakar and at regional level. In addition to being director of DTO he also is in overall charge of training, and is the SODEVA project manager for this project.

Within the DTO are the divisions concerned with Input supply, Suivi (which virtually defies translation but means ensuring that the agricultural production process is made as easy as possible by identifying and removing bottlenecks where these occur), Training and Project Execution.

Most of the functions are self-evident from their titles except that of project execution, which appears almost to be a post created for a returned participant trainee with a Masters in Agricultural Education, who should have been assigned to CETAD, but has not yet been placed there.

Construction and Commodity Procurement

Construction needs identified in the PP include the construction of:

		DOLLARS
- SODEVA	Operations unit in Tivaouane	35,000
	" in M'Backé	35,000
	ZER warehouse in Tivaouane	8,000
	ZER unit in M'Backé	45,000
	Instruction Center in Pout	90,000
	A/U Production Center in Pout	140,000
- ISRA (CNRA)	House for researcher in Bambey	60,000
	Hay barn in Bambey	53,000
	Cold room at CNRA Bambey	10,000

Amendment No.1 to the Grant Agreement specified the allocation of construction funds. The amount for 1980 was $210,000 for SODEVA and $20,000 for ISRA (CNRA) and in 1981 $77,000 for SODEVA and $48,000 for ISRA (CNRA). Amendment No.2 allocated an additional $270,000 to the project for 1982 without a specific commitment to SODEVA or ISRA. The total amount of $625,000 includes $150,000 allocated for the construction of 28 wells and 28 sheep shelters for the Women's Unit.

In November, 1981 USAID approved contracts for the construction of SODEVA buildings in the amount of $353,000, but decided to reimburse the contractors directly for work and accrued expenses instead of advancing funds directly to SODEVA.

The construction work was plagued with technical and administrative problems from the very beginning. This resulted in considerable delays in the construction schedule. To date, only the Instruction and A/V Production Centers in Pout and the house for researcher in Bambey have been completed. The buildings of the operations unit in M'Backé were recently finished, but the complex is still not operational, because water supply, electricity and the telephone line have not been installed. The construction of the operations unit and the ZER warehouse in Tivaouane as well as the ZER unit in M'Backè have not started yet. The hay barn and cold room at CNRA in Bambey will evidently not be needed any more, because of changes in ISRA's research program.

Main factors causing the delays in the construction schedule appear to have been:

1) Lack of strong leadership on the part of AID project management at the beginning of project implementation;

2) Lack of coordination between AID and SODEVA project management;

3) Difficulties with procurement of tax-free construction materials;

4) Problems with the coordination of work done by different firms (Pout);

5) Changes in the original design of installations (Pout);

6) AID's reimbursement policy resulting in financial difficulties for firms with little liquid funds;

7) Problems with construction site land ownership (Operations unit in Tivaouane);

8) Lack of interest in small construction projects on the part of contractors.

There is general agreement among the personnel involved in the implementation of the construction program that many of the problems could have been foreseen and, therefore, should have been accounted for in the construction schedule.

The present outlook for the completion of the construction program is quite encouraging, since the problem of land ownership in Tivaouane has been resolved by selecting another construction site and SODEVA was finally also successful in finding a contractor who will construct the remaining ZER buildings in M'Backé and Tivaouane.

Commodity procurement has been a serious bottleneck in terms of almost all relevant project components. A particularly bad situation developed in terms of the U.S. procurement of the audio-visual equipment. The contractor that was given the job was apparently so incompetent that AID/W is no longer giving it work. The PIO/C for this procurement was issued in January, 1982, and some items have still not been delivered. In addition, a number of accompanying spare parts, like batteries for the video camera, were apparently not ordered, or if ordered and delivered, have since been misplaced.

At a more mundane, but critical level, tables, chairs, and bookshelves for th A-V center have still not been procured, although these are available locally, and thus AID can pay the suppliers directly once SODEVA provides it with a pro forma invoice. Local procurement in some cases seems to have taken as long as off-shore procurement, partly because SODEVA is very slow in getting the necessary bids from suppliers. In the case of the A-V center, the expensive equipment that has been procured off-shore is now in boxes on the floor in the center's storeroom since there are no shelves available. (There are also no fire extinguishers in the whole center, and no fire exits.)

As is often the case in AID, there has been a problem with procurement waivers on the project. An internal contradiction in AID/W guidance on the use of the Mission Director's waiver authority regarding vehicles led to a processing period in the USAID and in AID/W of four months on a waiver for vehicle procurement which, in the end, AID/W claimed could have approved by the Director in Dakar. The related PIO/C was then lost in the USAID for a number of weeks. With 10 months left of project life, two buses, several pickups, and two mobile audio visual vans remain to be procured. The PIO/C for the latter has not yet been prepared by the project manager, since he was led to believe that they might not be desirable on technical grounds (see above). The absence of these particular vehicles means that now that the A-V center is finally constructed and mostly equipped—and now that SODEVA has asked for a replacement TA specialist funded under the project—there are no vehicles available for the A-V team to do its work in the field.

There are long delays in the local procurement of the millet mills and threshers for the WID component, as has already been mentioned. The genesis of these delays is still not clear. The mills are in fact locally available in two models. One, preferred by SODEVA, is made by Matforce. Another, with a Matforce motor, is made by SISMAR (formerly SISCOMA), a Senegalese firm. The latter are cheaper, and buying them would have a multiplier effect in terms of foreign exchange and import substitution, albeit on a small scale. The funds for this procurement have been consistently available, even when funding was temporarily stopped for other project components due to the GOS's failure to meet the CP on recurrent costs. No waiver for local procurement is required, since the mills and threshers come under the $5,000 shelf-item local procurement automatic waiver authority of the Mission. Village women have provided their up-front contribution as long as a year ago. Yet, the procurement has not been done.

The USAID project manager indicates that a good deal of the cause of the delay has resulted from SODEVA's laxity in getting the required bids from

local suppliers. SODEVA indicates that its HQ was under the impression for two years that the funds were being blocked by AID. Even if both sources of delay are accurately described, this is a situation which has been allowed to persist for far too long. However, it is symptomatic of, and contributory to, the poor communications between the USAID and SODEVA, and contributes to what has become virtually an adversarial relationship.

The Mission has an effective Supply Management Office which handles off-shore commodity procurement. Its staff have had to spend an undue amount of time following this project. They agree that part of the difficulty is a genuine problem of understanding on the part of SODEVA technical staff. They also point out that part of the problem derives from poor USAID project management in the past. This, in turn, was exacerbated by the poor performance of the U.S. procurement contracting firm. Aurora Associates, the TA contracting firm, could have been authorized to assist in the procurement of small, urgently needed items in the past, and this is still an option to be pursued. While procurement is often a bottleneck in projects of this kind given AID's requirement to follow the FPR and the AIDPR, there are creative and legal ways to make the system move. Some of these might be tried in the remaining LOP.

Field Level Interventions.

Formation of Women's Groups.

The PP for Phase II anticipated that over the LOP, village women's groups would be formed and active in 28 villages in the project area. When project implementation began in 1981, SODEVA developed a set of criteria for villages to be chosen for inclusion under this project component. Among these were: a) village of not over 300 adults; b) availability of water; c) absence of any other "encadrement" (intervention) than that of SODEVA. The plan was for villages to be chosen and activated on the following schedule:

Year I	5 villages	
Year II	15 villages	
Year III	25 villages	
Year IV	28 villages	(Total for Phase II)

It was further decided that the two new departments that had not been included under AID's Phase I project — Tivaouane and Mbacké, would not be included until the second year, so that gains could be consolidated in the other three Departments . The following figure gives an indication of activities with women's groups that had been anticipated and actually achieved during the Phase I period, although not necessarily with AID funding.

Insert Figure 1 here in the text

The event, the WID Director chose to take a participatory approach to the design and implementation of the WID activities at the village level. This was done following a baseline study to determine what women's role was in terms of agricultural production, and what the possibilities were for women's groups to undertake communal income-generating activities in the sub-zones of the project area.

This approach, while laudatory for its participatory orientation, also meant that women's groups were enabled to ask for funding of activities that were either peripherally included in the project design (literacy training), or excluded from it on the basis that they were not likely to contribute either to increased agricultural production or income-generation for women (latrines, medicine kits, midwife training, etc.). It is important to note, however, that while the WID minitrices provide information about how to attain these goals, funds are not provided under the project directly for purchase of materials, with the exception of midwife training.

The SODEVA WID Director set out to establish a careful and constructive approach to the group organizing and motivating task, following the logic set forth in the PP. Thus, a baseline study of the role of women in the villages of the project area was undertaken; five "test" villages were selected, in each of which a monitrice candidate spent one month, preparing a stage report. An attempt was made to establish the best ways in which to assist traditional women's groups at the village level to change into producers' pre-cooperatives; to carry out with SODEVA's assistance a diagnostic exercise concerning village needs and ways the group could help to meet them; to establish priorities about activities to pursue and ways to organize to carry them out; and to organize the group and its office holders in the most appropriate way to achieve these goals. These methods were perfected in the 5 test villages, all of which were, in the end, retained as project WID villages.

One of the interesting parts of this methodological approach was the attempt to ensure that, despite local social structural hierarchies, there would be sufficient positions of responsibility in the women's groups that non-elite women would have a chance to demonstrate management and production skills. Thus, if most of the office holders in these groups (Presidents, V-P's, Secretaries and Treasurers) are in fact the wives of Communautés Rurales Council Members, Village Heads, or Carré Heads, there are also positions as heads of production teams or as matronnes, agents sanitaires de base, or dyeing experts so that other women are in fact given a chance to develop and exhibit management skills. In some cases, this means that there are more officers than would at first seem logical, but the results are good developmentally, and organizationally as well.

As has been mentioned above, there have been a number of delays in reaching the number of villages targeted for each year. At present, the total number of villages included under the WID component is 14. The major delay resulted from the fact that Promotion Humaine did not make available the monitrices who were to form the majority of the staff of the WID Unit. SODEVA and AID negotiated with P.H. for about one and half years before they gave up and selected and trained their own two monitrices. Further delays eventuated

from the maternity and annual leave status of one of the two monitrices. Both started to work in December 1981 - January, 1982. At this point, the WID Director was reassigned to Thies, together with both monitrices, and the WID component really got under way at the field level.

As has been noted, a decision was taken within SODEVA — AID's approval role here is not clear — that in the Diourbel region, the WID component would be implemented by the regular (male) DAP staff, apparently in an attempt to integrate the component more fully with other regional SODEVA activities. Insofar as Diourbel is a somewhat more difficult area for WID activities than Thies, partly because of the stronger presence there of Mouride Marabouts, and the conservatism of the Serer, this seems, on reflection, to have been a poor choice. Additionally, there has been more turnover in senior SODEVA staff in the Diourbel region than in Thies, Diourbel is farther from Dakar hq. and field visits indicate that group organization and activity generation may have been generally more difficult in this area. Still, 11 villages in Diourbel have now had some attention.

Women's Labor-Saving Initiatives.

The PP stressed the importance of ensuring that WID component activities would be well-planned so that women's domestic labor burden would be decreased through the provision of improved wells, and of mechanized millet mills. Then, once these labor-saving initiatives were well in hand, and the groups had the capability to manage and maintain them, income-generating activities — primarily in agricultural production — were to be introduced, again on a group basis. In fact, as the SODEVA WID Director points out, in some instances, it was necessary to start with group income-generating activities so that the women could put together enough money for their 30% contribution (advance) for purchase of a millet mill. This has proved less of a stumbling-block than might have been anticipated in the PP. The major problem in implementation on the labor-saving score has been the matter of wells and other water sources.

The PP design called for cooperation and collaboration betwen SODEVA and the Hydraulic Service, what at that time was part of the Ministry of Rural Development, as is SODEVA. By the time the project reached the implementation stage, Hydraulics had been moved to another Ministry. During the team's field visits in Thiès and Diourbel regions, it turned out that no assistance to the project had ever come from the Hydraulics people. Apparently, those at the regional level had no authority to initiate and carry out collaborative activities of this kind. Thus, correspondence was initiated from SODEVA (Dakar) to the Ministerial level of Hydraulics. To date, so far as we are able to gather, there has been no response whatsoever from Hydraulics.

Meanwhile, in one of the WID component villages visited, two wells and one water storage basin were constructed with group funds and local labor in one village only. One of the first things mentioned in the majority of the villages visited was the problem of water. Either wells were contaminated, or the water table had fallen due to the poor rains (and possible depletion of the water table in the area from poor water use planning in general).

In the Thiès region, the Délégué, who traveled with the team explained to villagers that SODEVA did not have the authority to resolve these problems itself, but that it would again attempt to get Hydraulics involved. Similarly, the situation was explained by the Diourbel Délégué in the course of village visits in Diourbel region. Additionally, villagers were asked what other means they had tried to resolve their water problems. In most cases, they had already addressed appeals to their local Sous-Préfet and/or the Rural Community Council, which is the appropriate approach. In one case, in a village where a Marabout is the Village Head, this approach had yielded results, but the well would not be provided until the CR's taxes have been collected.

It has been noted in various reports on the Basin that there are a number of sources of funds and projects for well-digging, but also that the equipment to make these wells viable is often not forthcoming. Similarly, the provision of wells and other local infrastructure is a very political matter, which involves and supports both traditional, modern, and party patronage systems. SODEVA is probably the least endowed with the means to affect such a situation substantially, and can at best serve as a catalyst. Nonetheless, this is a critical element to success of the WID component, and it seems surprising that the USAID has, so far as the evaluation team could determine, never taken this matter up with the appropriate GOS authorities.

The matter of the provision of millet mills on credit under the WID component is also somewhat fraught with problems. As has been mentioned, a misunderstanding has existed within SODEVA for about two years as to whether there was still funding from AID for this sub-component. Thus, the advances that the women's groups are supposed to provide were collected from villages, and held in a current account by SODEVA (the "revolving fund" account) to be used against WID component activities in other villages. Meanwhile, the women's groups who have put up these funds have not received their mills, and have also foregone whatever profit they might have generated with these funds in the interim.

There are, indeed, some questions about the economic viability of the millet mills that have already been put in place (six). In some instances, the WID villages with mills are near to other villages that already had mills. On the other hand, the fees paid for milling by the women of the WID villages now go to a separate account which, in turn, funds additional group activities, rather than going to individual entrepreneurs in other villages, which is a clear benefit. It is difficult to calculate the social benefit which accrues from these mills, but it seems to be considerable. The women gain experience in management skills (there is a management committee for each mill); they learn to select (and fire) millers, and to establish a wage policy; they benefit from the experience of running a profit-making activity which, in turn, strengthens their resolve and their financial ability to engage in other income-generating projects. Further, the physical presence of the mill in the village provides clear evidence to the village men and village leadership that the women's group has accomplished something viable, and that village-level self-help is both possible and profitable. (It is not irrelevant that in a number of villages, either the Village Head or a group of

village men have provided interest-free loans to the women's groups so that they can come up with the 30% advance payment that is required before a mill can be ordered and, eventually, procured.)

There are some problems in SODEVA's implementation of the credit policy with regard to repayment for the mills. The SODEVA concern is two-fold: a) that the women's groups should be able to amortize their investment and have enough money by the time the mill wears out (about ten years) to be able to buy a new one, given price inflation expectations, and the fact that the replacements will have to be purchased fully tax-burdened, and b) that the loans for the initial mills be fully repaid to from a revolving fund. Thus, the emphasis is on making sure that the money for the loan repayment installments is set aside each month.*

In its concern for caution and proper financial accountability SODEVA disallows investment by the women's groups of these funds in potentially profit-making activities in the interim—either month to month or year to year. The supposition is that there is no income-generating investment opportunity which is so fool-proof that none of the money will be lost. Similarly, neither these funds or other profits from group activities are placed in the bank, at interest. This is apparently because women (like most men) at the village level have no identification papers, and thus cannot open bank accounts.

This is a situation which, in the view of the evaluation team, should be reviewed and corrected. In those villages that have had profit-making activities for some years, the women have made strong requests for suggestions about how to identify bigger, more profitable activities in which to invest their existing profits, such as those from cattle or sheep fattening. When the evaluation team suggested opening an interest-bearing bank account in the interim, the women seemed to like the idea. The SODEVA WID Director indicated that it may be possible for SODEVA to undertake to open these accounts. If this is done, it is important that the women be given the management of the accounts. In general, the major flaw in implementation of this project component is SODEVA's general reluctance to let the groups manage their own affairs. The emphasis remains on a rather heavy-handed "encadrement" approach, a lot of "animation" by the monitrices, and an apparent inability to provide reliable management skills to the groups' officers such that this approach can safely be foregone.

Short-term TA was programmed for the WID component. To date, SODEVA has resisted various suggestions on this score, probably rightly given the suggestions that have been made. However, there is room at this stage of project implementation for some short-term assistance in the specific areas of management skills training, sub-project identification, rudimentary farm record keeping, and the like. CLUSA has developed appropriate training

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* These installment payments, plus the 30% advance, total the price of the initial, subsidized, tax-free mill plus the estimated additional amount required to cover inflation and taxes for the replacement mill purchase.

materials, as have a number of other U.S.-based entities. There are materials for farm records appropriate for illiterate or quasi-literate users. There are a number of AID-funded experiences elsewhere in village-level income-generating/off-farm employment sub-projects that could be adapted and transferred to the Senegalese WID component situation. What is not needed, however, is some generalized "WID" TA, and in the view of the evaluation team, SODEVA has been right in resisting such an approach.

There are two further labor-saving activities that have been funded under this component. This first is the ban-ak-souf stove activity, and the second is the village wood lot activity. The ban-ak-souf stoves are very simple constructions made of mud mixed with sand. They either have one or two holes in which to place cooking pots. Each stove is covered with a brick or traditional shelter. The women in all the villages surveyed are extremely enthusiastic about these stoves. They save up to 65% of the fuelwood that is required under traditional cooking methods. They reduce the smoke that escapes in the cooking process, and cook hotter than traditional methods. In most villages visited, one stove has been constructed for each household or for each carré (group of households). The fact that they are well sheltered reduces fuel consumption and also allows the women to cook more efficiently and in greater comfort in the rainy season. Since there is a lower fuelwood requirement with these stoves, the women's time and labor that were formerly devoted to gathering wood (or the funds used to purchase wood in the market, depending on the location of the village) can be allocated elsewhere.

The village woodlot activity is a variant of a broader reafforestation program which is promoted by SODEVA and by other GOS agencies in the Basin. Of the villages visited, only four had woodlots. In one case, the lot was managed by the village men through another aspect of SODEVA's activities in the area. In one village where the women managed the lot, there were a number of problems of management, largely because of incursions of Fulani and their cattle, despite the fact that the lot was enclosed by a traditional brush fence. The village men had become involved in trying to rectify this situation. Representations had been made to the Fulani in question, and to the CR Council and the Sous-Préfet. However, nothing had so far been successful. The day we visited the village, the village men had caught three stray Fulani calves, and were preparing to take them to the authorities as evidence of the continuing problem.

Aside from this, the main problems with the woodlots are related to water availability, and to the distance of the land allocated from the village proper. In all cases, land has been donated by village men. Given current pressure on arable land in these areas, it is a significant indicator of project acceptability that village men have in most cases allocated the women's groups decent land for their woodlot and crop production projects relatively near the villages. This is not possible in all cases, however, and some village leaders have been more responsive than others.

Water and land quality are also important criteria for the success of crop production and gardening sub-projects. Each village visited had at least one

communal groundnut, millet or cowpea field, and almost all had at least once had a garden. While the area in question for these fields is in all cases limited (1/4 ha. - 2 1/2 ha.), in some instances the quality and location of the land donated by the village is quite good. SODEVA provides seeds and other inputs on the same 30%-70% cost-sharing basis as is used for the mills. The EB and ATCR for the area are supposed to provide technical advice and emergency pesticide treatment where necessary.

There have been several key constraints to production on these plots, aside from the overall lack of rain. First, there is the question of water for the gardens. Even where there are working wells, the women often have to carry insufficient amounts of water long distances daily to water the garden plots. Insect attacks have been frequent and damaging, and apparently have not been treated in time. For groundnuts, the women in the group are usually last served in terms of soil preparation (done by the men), as is the case traditionally on women's individual groundnut fields. The result is that these group plots often have had even lower yields than those of village men, despite the communal labor effort put in.

In one case, the group's millet plot had higher yields than those of th men in the same village. This was attributed to the fact that this women's group had benefitted from a special program of recommendations and selected seed (Souna III) from the local SODEVA extension workers. This led the team to wonder to what extent other women's groups are really benefitting from close followup from the local EBs and ATCRs, as is supposed to be the case.

The production of these plots is usually sold preferentially within the village, and then any surplus is sold in the nearest town market. So far, no special arrangements for transport of the garden vegetables produced in the villages have been contemplated. In one central village, the idea put forward by the team that profits from sheep feeding be used to purchase a cart, given that there were an average of four horses per carré, and that the cart could also be used to collect grain from neighboring villages for the village mill, was greeted with some astonishment. The response of the SODEVA personnel at the meeting was one of extreme caution.

Other income-generating activities that have been tried in some villages are largely limited to tie-dyeing, and sewing. The products are sold within the village, where they have been produced. Considerable interest was expressed by group members when the team raised the possibility of training in food preservation for domestic consumption and possible sale.

There is a residual category of group activities which are primarily related to health and hygiene. Latrines have been constructed in most villages included under the WID component, although no funds from the project are used for this purpose. The idea of latrines is raised by the SODEVA staff during the first "diagnostic" sessions with group members. Training of health workers, both sanitarians and midwives, is funded with project funds (see above). The fact that village women are willing, and that their husbands allow them, to go away from the village for from three to six months training for this purpose is a good indicator of project success.

As this part of the project continues, however, more attention should be paid to equipping the matronnes with an appropriate set of instruments, and to the means for providing the medicines for the village medicine chest which is controlled by the sanitarian. The project relies very heavily on the group members and other villagers clubbing together to donate small sums for communal needs of this kind. While this is both traditionally acceptable and viable in the short term, more attention should be given to medium-term planning for reinvestment of profits from income-generating activities rather than continual contributions. Similarly, more attention should be given to how groups should decide which activities should be dropped after a year or two, and what substitutions should be made. A related matter is the custom that all women work on all activities. Given the high demands on women's productive labor time, this in not an effective system for the project to reinforce.

A final key WID sub-project component element is literacy training. Here, various SODEVA reports indicate that this element is not so popular as it might be. Literacy training got one line in the PP, partly because it is not notably successful among women's groups in West Africa, especially where it is done in isolation from other more remunerative activities. Also, as is noted elsewhere, mass literacy training for adults is the mission of Promotion Humaine. In no case do all of the women's group members attend the literacy classes. These classes are given separately to the women by the EB, who also holds classes for the men. Apparently, the content of the classes is primarily the same - which is the intention under the project - with the exception that only women are exposed to themes on domestic hygiene. There is some room for doubt, however, that the EBs consistently expose the women to the agricultural themes that they reinforce with the men. Similarly, only in some villages where there are applied research trials are the EBs energetic about making sure that the women are aware that the trial is going on, and that they are shown what it is about and what the results are. SODEVA in general takes an extremely cautious approach to the demonstration effect of on-farm trials, fearing that the wrong message may be adopted unless they are "certain sure" that the trial has been successful. A good deal of the potential demonstration effect is lost in this way, especially since the trials currently going on are of rather uncomplicated, reasonably obvious, cultural practice improvements (e.g., use of manure, treatment with pesticides, etc.). Some trials could well be done on women's groups communal plots in future.

Evaluation of the WID Component

Reports have been prepared by the regional DEP offices on the financial results of the individual actions in the context of the WID component of the project. Because of the small number of actions which have so far been undertaken the evaluations are not based on a large sample over a very long period. However, the reports do show that SODEVA has taken a very responsible approach to the purchase of mills by the women's groups in requiring them to fund 30% of the purchase price. The margins which are being generated over the variable costs and fixed costs have been examined and compared with what

should theoretically be possible. In this way weaknesses in the location of the mills or in the initial management capacity are being ameliorated for future actions.

The results of communal field activities and of livestock fattening have been reported upon. Again, the results appear positive, albeit variable. However, a longer experience will yield more reliable results for future guidance. As with evaluations of trials and of the present farming systems data on labor input would improve the utility of the results since it is impossible, at present, to tell what the returns to labor are.

While the women may have only a limited number of revenue generating alternatives, one of the objects of the component was to relieve them of some of their work burden. If this released time is devoted to something of only marginal value, it may not succeed in the long run.

The TA agricultural economist is preparing a survey methodology at present which will be applied to a sample of villages where WID interventions have taken place as well as some where they have not. This survey will be carried out in the near future and will create a baseline from which planning can take place, as well as a foundation for regular evaluation.

ISRA/SODEVA Off-Station Applied Research

The ISRA/SODEVA Protocol adopted the principal objectives of off-station research as proposed in the PP. They include:

1) groundnut varieties comparison trials (1982-83);
2) sorghum varieties trials (3 years);
3) fertilizer studies (1980-84);
4) insect problems on cowpea (1980-84);
5) dry season plowing (1980-81);
6) cultural techniques on manioc (1980-84)

These objectives were viewed at the end of Phase I as the most important for achieving the project goal to diversify and increase the production of crops and livestock so as to increase employment opportunities and small farmer incomes, and improve nutrition in the project area.

In accordance with the Protocol, the off-station research objectives were incorporated into the ISRA/SODEVA action plan for 1980/81. At the end of the season the results of the trials were evaluated and objectives reviewed. The results from the first year were adversely affected by the lack of precipitation and delayed onset of the growing season. The tested varieties of peanuts surpassed in yield the local varieties, but remained behind their potential. New varieties of sorghum were tested at the farm level. However, their performance was distorted by damage caused by birds. Fertilizer efficacy was clearly demonstrated only in the millet trials, whereas the lack of rain affected the reliability of groundnut trial results. The trials with chemical treatments of cowpea against insect pests convinced many farmers

about the possibility of increasing the acreage of this valuable crop. The dry season plowing trials revealed some major obstacles to this technique such as poor physical condition (insufficient strength) of draft animals due to insufficient feeding. The problem could be corrected by using pairs of draft animals for deep plowing.

In 1981/82 the groundnut varietal trials continued. However, from the total of 12 projected plots only 8 were planted, 6 in the Diourbel region and only 2 in Tivaouane. With the exception of a limited area around Pout, the sorghum trials did not fulfill the expectations that higher-yielding sorghum varieties could to some extent replace the millet crop. Sorghum's lower resistance to drought appeared to be a major drawback. The fertilizer studies stimulated a discussion on the importance of organic matter for efficient use of mineral fertilizers. The cowpea trials continued to demonstrate advantages of insecticide treatments and included some other aspects of crop management, such as the optimum dates for planting and cultivation in association with millet.

In the 1982/83 season the peanut trials were not continued since farmers reportedly have chosen the 55-437 variety as the best suited to their operations and SODEVA was not willing to continue beyond the two-year period designated in the PP. The fertilizer trials encompassed the thinning and weeding aspects of millet management. The insect and varietal resistence studies continued on pure stands of cowpea as well as on associated cultures. The manioc trials focused on the use of fertilizers, cultivation in association with millet and on the pest (cochenille du manioc) problems. A study of improved grain-storage practices (insecticides) was introduced.

In the still on-going season 1983/84 the off-station field trials continue to focus on the efficient use of fertilizers (millet), on the insect problems affecting successful cultivation of cowpeas, on manioc management practices and on the improved methods of grain storage. In the fertilizer trials more emphasis is being put on the use of manure. Also, for the first time the samples of soil, manure and various parts of the millet plant were taken for chemical analysis.

It can be concluded that the off-station research objectives have been fulfilled and that in the context with the conditions existing in the project area and funds available the trial themes were appropriate. ISRA and SODEVA representatives responded to some newly identified needs for testing (insecticides for grain storage) and made adjustments in the methodology of fertilization in the direction of long term improvement of the project area. The trials employing the use manure should be strongly encouraged and the results rapidly transferred to the extension level.

Some other themes that should be considered for off-station trials include manure conservation, composting, effective use of crop residues, liming, the use of phosphate fertilizers and mulching. Trial design might also include a range of fertilizer levels reflecting different capabilities of farmers to obtain and use economically commercial fertilizers in less than the optimum

recommended (ISRA/SODEVA) priorities. However, the number of variables in individual trials should be kept to minimum for the sake of simplicity and reliability under already variable rainfall conditions.

Although the ISRA/SODEVA experiments are evidently pointed in the right directions their major drawback is the relatively small number of duplications (see the Table below).

Distribution of Off-Station ISRA/SODEVA Trials-1983/84

DEPARTMENT	THEMES			
	FERTILIZER	COWPEA	MANIOC	TOTAL
Bambey	4	1	-	5
Diourbel	3	1	-	4
M'Backé	3	2	1	6
Thiès	5	2	2	9
Tivaouane	6	2	-	8
TOTAL	21	8	3	32

This situation does not permit standard economic analysis and the interpretation of trial results can be rather dubious. It would be to the benefit of both the researchers and farmers to increase the number of trial duplications through increased number of participating farmers. Since these trials also serve, at least in part, for demonstration of new techniques and management practices, they can play an important role in extension activities. We recommend that part of the available funds be allocated for this purpose.

SODEVA's Extension Organization and Methods

In the discussion on training of extension workers, the philosophy on the transfer of messages was considered. The means by which information is transferred down the "cascade" and the modus operandi of the base extension worker is of equal importance.

The project operates in two regions, Thies and Diourbel. In the former there are two departments which are included in the project, those of Thies and Tivaouane, and in Diourbel there are the departments of Diourbel, Bambey and M'Backé. Each department is divided into arrondissements and each of these is sub-divided into Rural Communities. There are GOS Ministry of Interior administrative divisions.

SODEVA uses these sub-divisions for its own management structure and has a regional headquarters for each region with specialist and management staff and at departmental level a Chief of Operations who has specialist assistants in livestock and horticulture. At Rural Community level (CR), is an ATCR (Assistant Technique de Communauté Rurale) who is in his turn responsible for

the Base Extension Agents (EB). The number of these latter varies according to the size of the Rural Community, being normally two or three per ATCR. The number of villages for which an EB is responsible is normally about 20-30. Clearly, the number of farmers that this implies is more than can be coped with on an individual basis which is why the auto-encadrement system and methods of mass communication have been and are being developed.

Regional control and information transmission is organized around a series of meetings of the staff at various levels. At the regional delegation level, a monthly meeting assembles the regional staff of each discipline together with the Chiefs of Operations from the departments. An account is given of what has been done in each area and is critically analyzed by month and culmulativly. In addition to this, the regional staff visit the departments to verify that the agreed program is being carried forward, and to provide assistance if this is needed.

At Rural Community level the Chiefs of Operations hold their own monthly meetings with their ATCRs where again the progress reports are examined and new programs of action transmitted. These meetings are also the forum for feed-back from the field level if problems have arisen regarding certain of the extension messages as they applied to that department in the local circumstances. Control and reinforcement of the extension message at the EB level is ensured by fortnighty meetings between them and their responsible ATCR.

This system follows very much the World Bank's Training and Visit System which has been widely adopted. The question which arises, however, is that of the number of base extension agents necessary for a successful transmission of informaton to the farmer, and from the farmer back through the system to research. Clearly, the number of farmers per SODEVA agent is very high, but equally the number required varies very much according to the intensity of farming system, the literacy level of the farming population, the back-up which the extension service has in technical aids, such as radio and audio-visual methods, and the funding available to cover the costs of the service.

In the case of SODEVA, there are four principal methods employed for transmitting information:

a) Village meetings are convened where the extension themes are discussed as to their acceptability given the constraints in a particular situation — whether these be external (e.g. lack of fertilizer or seeds) or internal, such as lack of conviction on the part of the villagers that a particular message has validity for them. In the latter case, the extension worker will set up a demonstration in which he is urged to choose an "average" farmer to whom inputs are supplied, and who does the work himself. The extension worker then organizes visits to convince the villagers of the value of the technique.

b) Some individual visits are still arranged where there is a particular problem, and in any case it is idle to ignore the social pressures under which

the extension worker is placed. These individual visits are, however, discouraged as the extension worker has more ground to cover.

c) Audio-visual techniques are expected to play a greater role in the future which is why such emphasis was placed on it in the project design. The existing material is now becoming rather old and the number of showings is grossly inadequate.

There is considerable hope at regional level that the long-promised CETAD facilities and the mobile A-V vans will become effective and enable this method to be more widely and more frequently used.

d) Radio transmissions are widely used and apparently listened to by the farmers. This is an area which holds great promise also, particularly if the input and marketing systems were freed up and farmers were given price and availability data. It will also be of considerable value to the new concept of self-managed cooperatives which are likely to have less input of advice from SODEVA agents when these latter are fewer in number. Efforts should be made to use farmers who have been involved in off-station trials and demonstrations under the project to make tapes discussing their experiences that can be transmitted over Rural Educational Radio. A number of farmers interviewed during the evaluation indicated their willingness to participate in such a program, and said they thought it would have considerable impact if tried.

The general conclusion with regard to the staffing levels would be that it would be preferable if a higher number of field-level staff could be afforded but that—given the budgetary constraints, the increasing complexity of the problems facing Senegalese agriculture as intensified, integrated farming systems are forced upon it—the trend towards a more professional service is a correct one. The development of the "paysan relais" approach, if it is successful may bridge the gap which a high ratio of farmers to base extension workers may leave.

Economic Evaluation of the Joint Trials

The 1982/83 series of joint trials was evaluated from an economic point of view by the TA agricultural economist. The principal objective was to evaluate the financial benefit of the techniques to the farmer and to measure, in some cases, to what extent this varied from results obtained on the research station itself. A second objective was to set up the methodology for future years and to test the validity of the trials for the application of economic evaluation.

In the case of insecticide trials, for example, the results obtained on the research station were the reverse of these obtained in on-farm trials which will further guide the SODEVA/ISRA staff in their choice of trials. Furthermore, the conclusion that some trials were insufficient in number and that evaluation therefore had no validity confirms the point of view of the team agronomist that a larger program of trials should be undertaken.

The calculation, where this was possible, of the return to labor as well as the margins over expenses is one which should be encouraged by the methodology proposed for the future. It has been shown in several studies that the small farmer has an acute awareness of the value of his time and this gives a sound basis for assessing the likelihood of any measure being adopted.

Extension Messages for Increased Production of Millet and Crop Diversification

One of the principal outputs anticipated from the project was to increase the yields of millet by 340 kg/ha by 1983, through extension of a set of simple production techniques including the use of the improved, drought - tolerant variety Souna III, early thinning (6-12 days after germination), and the use of fertilizer at the ISRA recommended rate of 60-30-30 kg/ha. Field trials by ISRA and SODEVA have shown that the three techniques can increase production in a farmer's field by 500-600 kg/ha.

The goals of crop production diversification involve possibilities for continuing sources of income between major crop harvests, improved diets through increased consumption of vegetables and high-protein legume seeds, greater utilization of residual moisture through late intercropping of millet, and increasing overall farmer income. The main crops proposed in the PP for the SODEVA diversification program were cowpeas and manioc. Vegetables were reserved for the WID component.*

For reasons beyond farmer and SODEVA's control, as described elsewhere in this report, the projected yield increase of millet has not been achieved, but there is evidence that SODEVA did a great deal to convey the extension messages existing at the beginning of Phase II to the farmer. The ISRA/SODEVA joint trials were designed to test the results of on-station research in off-station farm conditions and generate new extension messages. However, field trials are relatively long term activities and one should not expect immediate results even under fairly uniform conditions. More repetitions may be needed under variable or extreme weather conditions (recent years). To transfer the results of trials into extension messages the extension agency must have a high degree of certainty about the reliability of trial results and the correctness of their interpretation. At their joint annual meetings the ISRA researchers and SODEVA representatives discuss the results of trials conducted in the past season and decide which techniques are reliable enough to be disseminated as extension messages to farmers. Since the beginning of Phase II several new extension messages have been developed from the results of ISRA/SODEVA off-station trials. These include recommendations for the use of higher yielding varieties of groundnuts and sorghum and improved management practices, such as early thinning and weeding of millet and chemical protection of cowpeas against insect pests.

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* Stomal-Weigel (1980) and Waterbury (1983) both make the point that, due to male labor-migration patterns in the project zone, the only real possibility for increased production during the "contri-saison" is to involve women farmers, who, on the whole, do not out-migrate during that period.

SODEVA is under constant pressure from ISRA and AID to prepare and deliver new extension messages to the farmer faster. It is understandable that as a responsible organization it does not want to misinform farmers by giving them information that has not been sufficiently tested in farm level conditions, although ISRA researchers are convinced that the results of on-station trials are reliable enough. On the other hand, SODEVA should not be afraid to inform farmers about the results of current trials (although still unconfirmed) and should develop more efficient methods for the delivery of reliable messages. These might include better programs for the Radio Rurale and SODEVA audio-visual unit and increased participation of farmers in extension demonstrations.

The flow of feedback messages from the farmer to research has been established by the project through the participation of ISRA researchers in the off-station trials. When some farmers suggested different densities of cowpeas than originally recommended by ISRA, the researchers agreed to modify their method and subsequent results proved the correctness of the change. Another example was the situation when the recommended doses of fertilizers were not available or affordable to the farmer. The methodology of millet management was amended to include the manure fertilization element. This was a correct reorientation from an unreliable supply of chemical fertilizers toward a home source, so far scarcely utilized in the modernized farming system. The theme of organic (manure) fertilization of millet was transformed into an extension message and was the only topic of 14 SODEVA extension demonstrations organized in 1982/83 for farmers in the Thiès region; it was the main topic for similar demonstrations (16) in the Diourbel region. The number of farmers whose millet fields served for demonstrations was 66 in the Thiès region and 201 in the Diourbel region.

While the improved management of millet is rapidly spreading through the project area, the crop diversification message does not seem to have reached the ordinary farmer yet. Rather, it is still being tested in the ISRA/SODEVA off-station trials by a disappointingly small number of slected farmers. Both crops, cowpeas and manioc, suffer from pest damage and farmers are evidently reluctant to waste their land on risky trials. Chemical treatment (insecticide) of cowpeas has had some success. When there is enough evidence that the treatment is applicable to ordinary farmer conditions, SODEVA should send a stronger extension message, if there is to be any success in crop diversification.*

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* Given the extremely low cereal yields of the 1983 harvest, it is unlikely that project area farmers will be willing to assume the risk of crop diversification in large numbers in the next year or two, if they have not already seen it successfully adopted by others.

Use of Audio-Visual Techniques

Audio-visual techniques have been among the most effective means of conveying extension messages in many country environments. Unfortunately, due to enormous delays in the construction of the Audio-Visual Production Center at the CETAD, and delays in the procurement of audio-visual equipment, the anticipated improvement in audio-visual activities has not materialized yet under the project.

Unfortunately, it is evident that even the existing facilities have not been utilized most efficiently. In Diourbel region there were 68 performances in 1982/83 and in Thiès 33, however, most of them in Tivaouane department. During our field trip through the project area, many villagers admitted that they had never seen SODEVA films, others saw one performance five years ago and only the most fortunate ones witnessed two audio-visual visits last year The films and slides available at present are reported to be quite old, but still useful. With the newly opened Pout Center and better coordination of field activities, the audio-visual team can still do an enormous amount of extension work in the remaining LOP.

It is this project component that has suffered the greatest delays, in part due to commodity procurement, and in part due to construction. As has been mentioned in the discussion on technical assistance, the two years of specialist TA were rendered highly questionable by these delays in supplying the requisite materials for audio-visual production. However, it is also fair to say that the TA specialist could, in fact, have done more than he did. There was an audio-visual set-up in Dakar while he was in country, and he had a counterpart team and some materials.

It appears that there is a certain amount of resistance within the rest of SODEVA to the concept of audio-visual approaches to extension. This has been indicated to the team by the Director-General, who makes the point that greater efforts toward educating SODEVA's own staff must be made in this regard, as well as greater efforts at publicity for audio-visual techniques in the project area. It is to be hoped that the presence of the replacement audio-visual TA specialist can quickly start to have this effect. A problem might arise from the fact that the a-v specialist will not be in country throughout the growing season, unless the request for her services is extended.

The rate of production of audio-visual materials given the "mass" approach to extension that is now SODEVA's orientation must be fairly high. It is questionable whether this will be possible in the short-term given the present staffing pattern in the Audio-Visual Unit at Pout. There is only one cartoonist only, although there are two directors who can do film and video production. There is only one person available to work on the preparation of all written materials in local languages. At the least, some clerical/technical support staff should be provided so that the rate of production of all kinds of materials can be improved once they are designed.

There must be greater interaction between the audio-visual team and the Delegation and Operation representatives, including the WID Unit team. An audio-visual needs assessment could be done as from now, through a series of meetings with these field-level staff — including the WID monitrices and the EBs—and through discussions with the WID village groups and with the farmers who have participated in joint ISRA/SODEVA trials. Using audio-visual approaches to document the trials is a particularly desirable approach, so that the link can more easily be made between trials and demonstrations. Similarly, using trial farmers to record tapes about trial methods and results would have considerable benefit, both for its demonstration effect, and for making more farmers aware of what research is about, and what their contribution may be. In both of these ways, greater feedback from farmers to researchers — through SODEVA — can occur.

The vehicles for the Audio-Visual Unit are now on order, and will be purchased locally. The two audio-visual vans and the accompanying equipment are key to success in discerning and meeting field-level needs, and should be purchased as soon as possible. There is a precedent, since there were such mobile vans funded with Iranian assistance some years ago, and they were apparently used to considerable capacity. It is worth noting that villagers interviewed often mentioned having been exposed to audio-visual presentations at the time that these vans were still in operation, and then mentioned the hiatus until last year, when SODEVA was showing some old films they had obtained elsewhere.

Reafforestation

The PP promoted reafforestation activities as part of the integrated development of the project area. SODEVA was urged to concentrate certain of its efforts on tree conservation and replanting, but no specific goals were proposed.

During the first two years of the project, some reafforestation activities were initiated, working through the WID Unit, but they were not statistically recorded. In the 1982/83 season these activities intensified and resulted in the establishment of village woodlots in 66 villages of Thiès region and 22 villages of Diourbel region. Although most of the woodlots covering some 50 ha in both regions were not all established in the project area itself, the project activities contributed at least partially to their establishment.

In Thiès region only Eucalyptus trees were used (54,500) whereas in Diourbel, four species were planted; Eucalyptus (9,300), Neem (3,800), Acacia holosericea (400), and Acacia linaroides (200). In Diourbel region an additional 4,300 Eucalyptus trees were planted as windbreaks. In an effort to secure the growth of Acadia albida, some 3,000 young trees in Thiès region and 23,600 in Diourbel region were given protection.

Reafforestation has been organized by SODEVA in cooperation with the regional services of Eaux et Forêts, mainly at the village level. The village woodlots will serve first of all as a source of construction wood and some

fuelwood, and for those purposes the fast-growing Eucalyptus species appears to be best suited. However, in the current trend to restore the highly disrupted ecological system of the Groundnut Basin more attention should be paid to Acacia albida (cadd). This leguminous tree is native to the area, it is a valuable source of animal feed and fuelwood and its beneficial effects on soil properties are essential for the restoration of land productivity. At about age 40 the cadd produces fewer leaves and pods and therefore should be replaced. Systematic replacement (harvesting) could cover a substantial proportion of fuelwood needs. The optimum density has been estimated to be about 50 trees/ha (P. F. Freeman, 1982).

To achieve and maintain this density, some changes are needed in the current reafforestation program. SODEVA should put more emphasis on the promotion of the cadd tree. This might include extension information, provision of young trees and visits to successful sites. Since the cadd is an integral part of a farm operation, its promotion should be pursued at the farm level rather than the village level.

Cattle Fattening. Cattle fattening is a traditional operation practised by Serers in the Thiénaba area of Bambey, involving the purchase of beef cattle from transhumant herds passing through. These cattle are fattened for a three-month period mainly with farm by-products and then sold. SODEVA has been working with farmers to extend this scheme and helping them with such practices as animal health, deparasitizing and better nutrition.

Cattle and sheep fattening have made remarkable progress in the project area and during the 1982/83 season, the number of animals surpassed the project objectives set for 1983. However, sheep fattening is predominant.

DEPARTMENT	OBJECTIVES		ACHIEVED
	1978	1983	1982/83
Thiès	240	2,200	2,870
Tivaouane	180	2,700	2,560
Bambey	2,500	4,000	11,570
Diourbel	1,000	2,450	5,190
M'Backé	700	2,800	1,280
TOTAL	4,620	14,150	23,470

ISRA/SODEVA trials conducted in 9 villages of Diourbel region (25 farmers) showed that cattle fattening can be a profitable operation when properly managed. Besides the extra income, the operation brings a new element into the soil regeneration program. Stabled cattle provide the farmer with manure which can be stabilized by proper treatment or composting and then used as a rich source of organic matter and plant nutrients. The manure scattered incidently throughout the farm and exposed to the sun and air can retain only a fraction of elements originally present.

Fed to cattle, crop residues can be much more efficiently transformed into a more stable form of organic matter than through ploughing-in under unfavorable conditions of sandy soils.

Cattle fattening, together with other forms of livestock management, should be an integral part of a successful farm operation, particularly in conditions existing in the project area, provided it can be shown to be financially beneficial to the farmer.

IV. GOS-AID PROJECT IMPLEMENTATION ISSUES

A. Background

A number of serious issues have arisen over the life of Phase II concerning the relationship between SODEVA and the USAID. Some of these — long and short-term TA utilization, funding, commodity procurement, construction, and long-term training — have been discussed separately above. However, some of these particular substantive issues have arisen in part from, and then further contributed to, basic communication problems between the two organizations. Problems of communication have been fewer between AID and ISRA than, in general, between AID and SODEVA.

Many "direct-action" projects which are bilaterally funded present serious challenges in inter-institutional communication. To the extent that these projects are implemented by parts of two sovereign states, each of which has its own politico-legal system and constraints, as well as its own development agenda, it is likely that conflicts will ensue in implementation no matter how carefully a project has been designed, and even where the host country institution has been on board in the design process.

Where, in addition, more than one host-country institution is involved, and where each of these has a different mandate and history of assistance and institutional development, inter-institutional communication is likely to be even more difficult. Finally, where the project includes a large number of components, success of each of which is dependent upon successful implementation of the others, any major change in the policy context of one or more of the institutions involved is likely seriously to alter the viability of the project as a model for action.

As a number of AID-funded studies have found, the effort to "blue-print" the design at the outset, and then to keep to it at least at the level of project management documentation despite changing contextual parameters, tends to be more costly in terms of time, and personnel-intensive management than would be the case if project objectives were more modest at the outset, and more flexibility were allowed for modifications during project implementation. What is often not said is that this applies to the host-country institution as well. Bilateral, as well as multi-lateral project management places an exponentially increasing burden on the host country institution especially, as in this case, where it is involved with a number of donors at the same time, and where each donor has its own regulations, agenda, and operating style (see Morss, 1983).

It is interesting to note that the 1981 AID Audit Report which so seriously questioned the viability and desirability of continuing funding to Cereals Production Phase II also raised serious questions about the Mission's Rural Health Services Development Project. After the draft Audit Report had been received, the Mission informed the Auditors that the project had been redesigned. "We reviewed the revised project paper and noted that actions were taken to address the issues noted...." (Audit Report Memo, March, 1981.) The health project was budgeted at $3.3 million, while Cereals Phase II was a $7.7 million effort. Why, then, was the more expensive, and more complicated project not redesigned by AID and SODEVA, given all the changes in policy that had eventuated between 1979 and 1981?

One reason may be that there are known disincentives in the AID system to formal project redesign. Given the time and personnel it takes to amend a PP, and then to get the document approved in AID/W, many missions are loath to embark on this process. Even where the process is successful, there are then the additional delays and problems associated with amendment of the project agreement with the host country. Interruptions of funding and of continuity of personnel involved in the project are almost unavoidable. Also, where a new Mission Director is seen to be redesigning a substantial part of the project portfolio he has inherited, this may be seen by others to be an exaggerated example of the "new-broom" approach, and not well-regarded. Thus, it may be seen to be in the interest of all parties in-country to let the project continue "as designed," making marginal adjustments from time to time, and amending project documentation only where absolutely necessary.

Whether our analysis of the underlying motivations is correct or not, the outcome appears to have been to "leave well enough alone" in this instance, although in the end, this proved to be impossible. Changes were indeed made — some at the request of SODEVA (the firing of the first TA team leader) — and some at AID's request (the Grant Agreement amendments regarding funding). But some substantive changes, like auto-encadrement, which arose from changes in SODEVA's mandate and operating style, were not accounted for through commensurate changes in the overt project objectives, as has been discussed above.

Meanwhile, there were changes in staffing on both sides, as well as additional intervening variables related to other-AID and other-donor funding. The World Bank started a very large ag research project with ISRA, and AID initiated an ISRA-based Farming Systems and Agricultural Planning project. Two other donors essentially withdrew their support from SODEVA, for a variety of reasons. AID is presently proposing to fund a PVO project in SODEVA's zone of action which is regarded by SODEVA as a direct assault on its credibility and implementation authority in the zone. At least part of the MDR has taken this action by AID to mean that there is a vote of no confidence in SODEVA on AID's part. This, in turn, arises from and feeds into other GOS political and development agendas and internal GOS rivalries.

All of these factors make an AID-funded project evaluation both more intriguing and more difficult. Whatever the findings are in this case, there will be a tendency to perceive them in terms of a variety of interests and

programmatic objectives. The project qua project in a ense no longer can be seen as a separate entity, and evaluated in its own terms. Thus, it seems worthwhile to attempt to discuss some of the broader issues that arise in general rather than merely project-specific terms.

As designed, the project called for joint meetings between and among AID, ISRA and SODEVA, to occur every six months. Initially, these took place, and a number of people from each organization attended. Broad-guage issues wer raised and discussed, and conclusions were drawn which were recorded in a formal manner. Where necessary, these conclusions were incorporated into Project Implementation Letters from AID to SODEVA and/or ISRA. From the written record, it seems that these meetings were useful, and to the extent that senior personnel from the USAID had the opportunity to discuss administrative and substantive matters with equivalent personnel from the host country institutions, they served an additional function by providing a venue for adjustments in project-related policy. Given the hierarchical nature of Senegalese parastatal organizations, and the particular orientation of the present SODEVA D-G, this seems to have been a particularly appropriate management technique.

The last of these meetings took place in February, 1982. It is not clear to the team why they stopped. Apparently, it was partly because there were so many issues arising, and because the CP problem was particularly acute. This last meeting took place while the former AID project manager was in place. Since the changeover in AID project management, these meetings have ceased. This has put the present project manager at a disadvantage, particularly he is perceived as junior by the SODEVA senior personnel, including his "counterpart" SODEVA project manager. As he also manages the FSR project with ISRA, his relationships on that side are better, and contact is more frequent (Funding to ISRA was not cut off during the AID attempt to move the GOS to respond to the recurrent costs CP.)

On the SODEVA side, there is a lack of coordination in approaching AID. The Director, DTO, is the part-time project manager for the Phase II project. He also wears two other management hats, and is extremely busy. Partly to resolve the problem of his non-availability, SODEVA appointed a returned participant trainee to be head of "Project Implementation" for SODEVA as a whole, and it is this person who is the conduit for management interaction and information. Unfortunately, this person has no authority, and can only transmit information back and forth. It does not appear that he is particularly successful in doing this. Meanwhile, his M.S. in agricultural education is effectively going to waste. It has been suggested by the team that this individual be placed at the CETAD and given the opportunity to use his project-funded training.

The AID project manager is put at a disadvantage in having to deal with to the formality of Senegalese government structures. Understandably, he does not like to have always to write a letter about a minor implementation matter than has been discussed with one or more SODEVA staff, and often more than once. These letters, in turn, delay the taking of appropriate actions on either side. Where the letter also has to include ISRA, the delays are

commensurately longer. The AID project manager equally suffers from having to contact a number of individuals in SODEVA who are relevant to each kind of implementation issue — construction, commodity procurement, funding reimbursements, budgetary approvals, TA requests, and the like. Since authority ultimately rests with the D-G, none of these people is authorized to act on any issue, and a lot of information seems to be lost in transfer within SODEVA.

Given this situation, there has been a tendency on AID's part to try to use the expatriate TA specialists as conduits of information to and from SODEVA. This is an approach which SODEVA overtly resents, and which has put additional strains on the relationships of the specialists within SODEVA. There is a tendency to think that they are being asked by AID to split Theielogalties. This is especially true when they are invited to AID functions (retreats, official social events, etc.) without the invitation being cleared with SODEVA. This may seem strange to Americans who have not worked overseas before, but it should be fairly obvious to those with more experience.

The evaluation team was told repeatedly by various AID staff that it seemed that the remaining TA specialists were "too integrated" into the SODEVA structure, and espoused the SODEVA "party line" too readily. It is hard to see how a TA specialist can be "too integrated" into the structure he or she is supposed to be assisting. There is also a curious implication here, since the AID complaint is that these people are not loyal enough to AID, if and when there is a conflict between the USAID and SODEVA. "AID, after all, is paying the bills, " seems to be the underlying sentiment. Yet, at the same time, AID staff also complain that SODEVA is too stuffy about the role of the TA specialists, and that they don't really want or like TA, and that they don't use it appropriately. One is tempted to ask how both things can be true at the same time, although it is clear that there are some problems in the latter area.

The AID project manager himself points out that it is unfair to ask SODEVA to assign a full-time project manager when AID only provides about 1/5 of his own time for management of this project. The evaluation team, therefore, attempted to find other solutions to the persistent communication problems between AID and SODEVA, and within SODEVA itself regarding the implementation of this project. One is to bring in an information systems management specialist. This would have to have the genuine approval of the SODEVA D-G in order for it to accomplish anything.

The evaluation team's assessment of SODEVA is that those individual departments which the project aimed to assest are now more capable of fulfilling their role within the organization. The organization can be likened to a series of cells each of which functions within itself but does not communicate with other cells except through the highest level of management. This prevents swift action on a great many topics and the team constantly found examples of information which had not been passed on, supported AID's constant complaint that straightforward requests go unanswered for long periods.

There is also a tremendous amount of report writing by each division, resulting in the generation of a large quantity of paper at considerable cost but which tends to repetativeness. In addition to this there are regular meetings of staff at various levels many of which are very functional, as described earlier with reference to the transmission of extension messages. Many, however, appear to be more concerned with "conceptualizing," with consequent disruption of the execution process.

The same expert could, if accepted, work closely with the DEP staff in order to rationalize the collection and analysis of data and the internal reporting system. It seems that there is not very clear sense of why certain studies are carried out, and who the end-users are. SODEVA is often forced to come up with study reports on short notice for a variety of GOS end-users, and is thus placed in a reactive posture too much of the time. The AID-funded Apple III computer should at least accelerate the production of such reports, but SODEVA could use some assistance in protecting itself from study requests from all comers, and in planning its research agenda in terms of its own objectives and operations.

The information management specialist should also devote some time to reviewing the present approach of the documentation center in SODEVA to the acquisition and classification of information. As is pointed out by the center's head, while he has received some training, he does no have the appropriate equipment to maximize his efforts. He also indicates that the center's functions are hampered bny a poor understanding of its utility within the SODEVA hq structure and among other personnel.

Finally, this person should address the medium-term requirements for additional computer hard and software at the regional level, e.g., additional micro-computer terminals. Given the way in which data are collected and analyzed on a regional basis at present — and the related staffing patterns in the regional DEP and DAP units — there is a prima facie case for installing such terminals with project funding. In the interim, there is also an urgent need for small, cheap, programmable calculators for survey staff, again at the regional level.

Another suggestion is that a Senegalese book-keeper be hired at SODEVA with project funds (the project provides local salary support anyway), so that all the book-keeping functions that relate to this project can be centralized in one set of books and with one person aware of all the ramifications. In addition, SODEVA has indicated interest in having some English-language training provided for its management/financial staff so that they can cope better with Anglophone donors in general. This seems a sensible suggestion, and would be cost-effective. Another option is for SODEVA financial management staff to participate in AID's Sahel Regional Financial Management Project.

The team has also suggested that a series of meetings, involving the key actors in AID and SODEVA who are concerned with each aspect of project implementation — commodities, construction, financing, WID, training and

audio-visual, — take place, using this evaluation report as a basis. In this way, some of the persistent management issues and problems of inter-institutional communication may at last be resolved. Where necessary, senior AID and SODEVA personnel should be involved, both managers and technicians.

In the best of worlds, there would probably be some key personnel changes within SODEVA. This is likely to occur if only because the GOS is again calling for a reorientation of SODEVA's activities in the Groundnut Basin. This, in turn, has a number of staffing implications which are not yet completely clear. On the AID side, it is hoped that there will soon be a full-time Deputy Ag Officer and that this might somewhat lighten the project management load of the existing staff.

Further, if some of the recommendations made below are accepted by AID and SODEVA, there should be fewer project components to cope with, and some streamlining of management tasks should result. Finally, if the suggested option of turning increasingly to program assistance in dealing with SODEVA and the Groundnut Basin is adopted, additional savings in management intensivity should result on both sides.

Outstanding Issues

Several specific issues remain outstanding at the time of the evaluation. Some continue to arise from the complex of problems which led to AID stopping funding for six months due to the tardy GOS response to the recurrent cost plan CP. Although there was a follow up on the 1981 Audit by the Regional IG just before this evaluation, it did not deal with financial management but rather with the substantive recommendations of the 1981 Report. This follow-up effort, (for which the evaluation team has no documentary reference), recommended that the 1981 Audit be closed. The RIG did not, apparently, make any specific recommendation regarding the troubled question of the USAID deciding to suspend advance payments to SODEVA, or the issue of "flat rate" payments by AID of operating costs ("frais generaux"), or the matter of the type and amount of supporting documentation SODEVA must supply to the USAID Controller's Office in order to be reimbursed against its prefinancing of various budget line items. Given that these are all issues which are still to be resolved, and which would appear to have direct relevance to Auditors' skills and responsibilities, this lack of treatment seems surprising. Progress has been made by the USAID and SODEVA in resolving these issues, but a useable, reliable system for dealing with them has not yet been created and accepted by both institutions.

A second set of issues relates to the SODEVA request to extend the stay of the present long-term TA agronomist for an additional six months, which would require an extension of the present PACD. There is also the approved SODEVA request to replace the TA audio-visual specialist who resigned in mid-1983 by a short-term consultant who will be on a one-month trial. Meetings between members of the evaluation team, the AID project manager the Aurora V-P and SODEVA cadres have surfaced a number of issues relating to the

continued delays in A-V commodity procurement and outstanding problems with the A-V Unit construction and furnishings that may militate against the early arrival of this replacement.

Similarly, discussions with SODEVA have clarified, at least to the evaluation team, the reasons why SODEVA has requested extension of the agronomist's contract, but not that of the agricultural economist. Most of these relate to SODEVA's perceptions of AID's request for a plan for reorienting the rest of Phase II, and subsequent funding to SODEVA, if any, toward soil regeneration and conservation in the project area. This seems to have been AID's preferred solution to the large pipeline remaining to be disbursed under Phase II, with the very short LOP remaining. At the same time, the soil regeneration orientation fits into an already-approved Title III funding extension which sets up a soil regeneration fund.

Before the team's arrival, a number of meetings had taken place between and among the USAID, SODEVA and ISRA — and Eaux et Forêts — to discuss the preparation of a plan for efforts in the soil conservation/soil regeneration area in the context of the remaining LOP and beyond. At some point in that process, the USAID understood SODEVA to be asking for a variety of short-term TA in order to develop a plan. SODEVA also, however, expressed concern about future funding of a larger soils effort beyond the present Phase II parameters.

At a meeting that took place in November, 1983, SODEVA seems to have withdrawn the TA request, partly because it had concluded that with the extended services of the present TA agronomist, it had the wherewithall to work out the requested plan itself, in conjunction with ISRA and other concerned agencies. The USAID has since raised questions — not formally conveyed to SODEVA — about the appropriateness of this as a solution to the planning problem. It should be noted that the agronomist in question is a soils/moisture specialist, and that she has, in the view of the evaluation team agronomist/soil scientist, the right skills in order to design a series of expanded applied research trials in the soil conservation/regeneration area. If what AID is asking for is more than this, then her skills might be supplemented with those of a conservation specialist who would overlap with her before her departure. Part of the trouble seems to be that AID is not sure what it wants from SODEVA/ISRA in this domain, nor can it give a firm answer at this point in response to the latter's query about long-term funding given its own programming constraints.

The evaluation team feels strongly that, while soil conservation/regeneration is an appropriate and timely concern in the project area, a reallocation of project resources which would leave un-or under-funded other aspects of the project as it stands, would be unwise, and not justified by project performance in these other areas — e.g., the WID component, training of extension workers and literacy training of farmers, and the whole audio-visual component.

The present and/or future role of the long-term TA agricultural economist is also germane here. One of her main tasks was to design and implement economic/financial analysis in conjunction with the applied research trials, to see whether what would be recommended as a result of successful trials would be economically viable for farmers to adopt. Due to a number of internal SODEVA obstacles, she has only now been able to initiate this process in the last cropping season (1982-83). The results have been analyzed in part, and the system, when de-bugged, should be appropriate for implementation by the economists in the DEP in future years. Another part of her scope of work was to assist the DEP in better defining its program of studies and surveys. This she has been less well able to do, partly, again, because of organizational problems within SODEVA, and because of the issues which surrounded her reassignment from the DEP to the DTO.

SODEVA perceives its own economists — and sociologists and agronomists — as capable of taking over where this specialist will leave off at the end of her present contract. She has expressed no desire to have her tenure extended, and SODEVA has made it clear that they would not view this as appropriate. The evaluation team sees an extension as non-viable. Should SODEVA accept the recommendation of the team that certain kinds of short-term participant training for its cadres be supplemented by short-term TA in the information systems management area, any gap that is likely to emerge will be filled. There is always the possibility that a short-term ag economist could be brought in later if needed in the context of soil regeneration applied research trials as these advance.

There is an outstanding issue about construction. Two ZERs, sub-regional training centers, were to be funded under the project. Meanwhile, SODEVA has substantially changed its training orientation regarding farmers and other villagers, as has been discussed. This late in the project, and given these changes, it seems wiser to reallocate this funding than to construct these centers. This is especially true given problems SODEVA has experienced in the past in obtaining suitable sites and appropriate titles. There is little reason to assume that there would not be continued construction delays if these ZERs were built, so that even an extension of the PACD would not guarantee success.

Similarly, some funds remain for construction of a hay barn at ISRA ($53,000) and a cold room at CNRA ($10,000). In discussions, ISRA indicated formally and informally that these were no longer required. However, with the soil regeneration orientation — which should include forage and fallow research — this may be reconsidered. ISRA will discuss the question internally and make a proposal to the USAID.

Additional funds were programmed for improvements to the seed treatment center in Diourbel, when SODEVA had responsibility for this function. This has now shifted to the MDR, and is no longer a SODEVA function. These funds should be reprogrammed, in the view of the evaluation team and of SODEVA.

Commodity procurement is still an outstanding issue, especially for the audio-visual component, and the WID component. Vehicles for the A-V team are now being ordered, after a waiver for local procurement was approved by AID/W. The two audio-visual mobile vans, which were included in the waiver, have not, however, been ordered yet. The USAID was waiting for further specifications from SODEVA, and the view of the evaluation team as to the desirability of the vans. SODEVA's deputy director for training, however, thought that this had been taken care of, and that the vans were on order. It is this kind of confusion between technical staff and the management/-procurement staff at SODEVA which should be avoided in future, since it leads ot extremely long implementation delays and also to further misunderstandings between SODEVA and AID.

The WID component procurement has been discussed elsewhere. Here, it should be noted that there is apparently a broader issue in question. It seems that ISRA, some months ago, communicated to the USAID its intention to carry out a study of appropriate technology interventions at the village level that are related to food processing and transformation. The USAID project manager wrote to SODEVA, asking them to let ISRA know in which villages millet-mills had already been installed, and to cooperate with the study.

Meanwhile, SODEVA having replied to ISRA, went ahead with the request for bids for the rest of the millet mills and the two millet threshers whose purchase it had thought had been blocked by AID. The request for bids is about to expire. Thus, the evaluation team was asked to meet with the SODEVA procurement head to give a reading on what kind of mills should be procured, and in what proportion, given the possibility of a comparative analysis of mill performance in the context of the project. In a subsequent meeting between the team and SODEVA senior staff, it was determined that SODEVA would go ahead and order the most reliable equipment. Any experimentation and accompanying study, it was felt, should be funded and carried out separate from the present WID component activities.

Finally, there remains the outstanding issue of long and short-term training overseas and in Senegal. To date training for monitrices and village-level workers has been suspended or never started to date because of the mix-up between SODEVA and the USAID regarding the availability of funds. Retraining and upgrading of extension workers has gone along pretty much on schedule, but the original PP target will not be reached by the PACD given the present rate. These targets should in any case be revised, given the changes in SODEVA's mandate that are currently being considered by the GOS, and given the change in SODEVA's approach to extension in the project area. There is little use in training EBs who are likely to be laid off immediately after they are trained.

Long and short-term training overseas was completed as anticipated for ISRA, but has not been completed for SODEVA. Given the present PACD, it was decided some time ago that it was too late to send anyone else from SODEVA for MS-level degree training. The funds attributed to this long-term participant training were to be reallocated to short-term participant

training. In the event, some SODEVA cadres did travel to the U.S. for short-term training in management, and in other areas (See Annex 3). A considerable amount of funding remains in the project which could be attributed either to additional short-term training, for which there are current requests from SODEVA, or which could be reattributed against long-term participant training if the PACD were extended. Here, however, it is important to remember that the PACD would have to be extended by over two years to accomodate MS-degree training given the start-up time required, including improvement of English language skills.

A point made by SODEVA in terms of the lack to use of the long-term training slots is worth noting. Given the civil service scale in Senegal, there is little incentive for senior cadres to get advanced degrees since they will not be promoted accordingly. Therefore, SODEVA assumed that these slots should be reserved for middle-level cadres who could benefit from both the substantive and the promotional results of long-term degree training. However, SODEVA senior management indicates that these cadres did not have the required English-language proficiency; three candidates were turned down after failing the basic English test. Why measures were not instituted by AID and SODEVA to ameliorate the English language situation is not clear. The problem is mentioned in a memorandum on the Joint Meeting of March, 1981. (By that time, it was not quite too late to send someone with impoved English on long-term training, given the present PACD.)

One reason why more use has not been made of the short-term training opportunities seems to be the relative thinness of SODEVA staff overall, and the almost constant turmoil about SODEVA's activities and orientations. A lot of work is involved in responding to these changes, and to other requests for information or action from the rest of the government. Meanwhile, the USAID seems to have been remiss in not presenting more relevant information to SODEVA about the kinds of training opportunities that are available, and that might have been apporopriate. The role of the PDO Participant Training Officer in the connection is unclear. English language proficiency, meanwhile, is also necessary for comprehension in short-course situations. More use could have been made of third-country options than was the case, and this is still possible. Specific recommendations follow.

V. Conclusions

Exogenous Policy Factors Affecting Project Performance

In Section II, the exogenous factors which bore most heavily on the project were discussed in some detail. The project was entitled "Senegal Cereals Production II," and a series of production targets were set which, as has been demonstrated, have not been achieved. The exception to this generalization was the 1981-82 cropping season, when the rains were satisfactory, although the provision of other production factors in man's control was declining. The Phase II project had only started that season, so no credit for the satisfactory yields can be attributed to it. Equally, however, SODEVA and USAID's support cannot be held responsible for the decline in yields which characterized the following two seasons when outside

influences went from bad to worse, particularly in 1983, when rainfall dropped to catastrophic levels, and the two project regions were respectively estimated at achieving minus 76% and minus 78% cereals production, given targets established by the GOS.

Following the Joint Assessment of USAID/GOS assistance, which included an assessment of the agricultural policy situation as of 1980, and the analysis of the impact that the institutional changes that the collapse of the GOS Programme Agricole would have (and later, when the World Bank and Caisse Centrale ceased funding SODEVA), USAID made an implicit decision to regard this project as an institution-building effort. From the analysis that has been carried out in the course of this evaluation, this appears to have been justified. The positive aspects of the project are now coming to fruition, and a vehicle has been created which can serve Senegalese agriculture in the future when the policy context has been reformed in such a way that an extension agency can fulfill its proper role.

ISRA. ISRA is charged with overall responsibility for agricultural research on both crops and animals in Senegal. In the past, its crop research was concentrated at one research station at Bambey and focussed mainly on new crop varieties. It had weak links with agricultural extension and did not readily respond to newly-perceived farmers' needs.

Under Phase I of the project, the creation of the Cellule de Liaison within ISRA was designed to establish the necessary link between ISRA and extension services provided by SODEVA, but the arrangement was not as successful as had been anticipated.

The ISRA/SODEVA Protocol formalized in January, 1980 as part of the implementation of Phase II, defined their mutual responsibilities. It is evident from our analysis that ISRA's ties with extension have improved markedly during this phase.

The annual meetings with SODEVA representatives give ISRA personnel an opportunity to present new research themes and discuss their applicability to farm-level operations. ISRA researchers are getting much better feedback than before from participating in ISRA/SODEVA off-station trials and from direct contacts with participating farmers and SODEVA field agents. The joint field tours and training sessions at CNRA serve as additional discussion fora on practical aspects of research work and current problems of the research-extension link.

It is desirable that the existing ISRA/SODEVA cooperation be maintained, and strengthened by more frequent and expanded joint applied research activities.

SODEVA

Some misgivings must be expressed regarding the SODEVA farmer/base extension worker ratio in the intervening period during which the network of "paysan relais" is being developed through the literacy and cooperatives

management training programmes. However, it is felt that the project has laid the right foundation for a more professional service capable of facing the future. The future of agriculture in the Groundnut Basin is bound to become more complex as the pressure on land increases, and in the face of declining rainfall if present trends continue. To this extent it is felt that the project actions which have been started should be allowed to come to fruition.

There is clearly a question mark over some of SODEVA's activities which can be regarded as no longer relevant, or which compete for resources with other national services. In the former category falls input supply which absorbs time and resources which could be better chanelled elsewhere. The question of farmer literacy training is one which should be examined in the national context. It is felt by the evaluation team that functional literacy can best be handled in the context of extension in that it is in this form that it is more likely interest the greatest number of people, while at the same time transmitting information necessary for improved agricultural production and other improvements in the quality of rural life.

Overall, it is felt that having invested so much time and resources in building and extension vehicle it should not now be put into cold storage in the anticipation that, when some startling new technique becomes available, it can be resuscitated overnight. Nor is it felt that agricultural production increases occur in this way. The experience over the last few years with the revolution in input levels has demonstrated the need for a service which can adapt to new prices and input stimule and generate appropriate extension messages which provide a range of options to the farmer (See Eicher, 1983)

The philosophy of the participation of women in the decision-making and revenue-generating process in the farm family has been well accepted, if not to a degree initiated by, SODEVA and this is a desirable development for the rural sector as a whole. The WID component should be maintained, with some redesign and improvements.

SODEVA management can be reformed to improve the internal flow of information. The organization has a good system of meetings at all levels at which discussion and expression of opinion appears to be relatively uninhibited, but day-to-day information appears to flow less readily than might be desirable. The result seems to be that action vis-à-vis AID is often delayed.

AID

There are a number of ways in which AID's management of this project can be improved, most of which have been discussed above, and are treated in the Recommendations section. What remains to be discussed is the options the evaluation team sees as available to the USAID in providing further support to SODEVA over the medium term (the next three-five years). This timeframe is chosen because it will probably be at least that long until the GOS is in a position to implement a reformed agricultural policy in the Groundnut Basin, given all the policy problems that still remain to be resolved. When this has been achieved, the context for effective operation of an extension agency in

the Basin may exist. Until then, SODEVA should be supported, and donors should attempt to influence the policy outcomes that will affect its viability as an extension agency, relieved of many of the institutional burdens it has had to assume in the past. (An extension service cannot be put into moth balls for some indeterminate period, and then taken out again and brushed off, ready to go to work, and to regain the confidence of its agriculturalist clientele).

There are at least three options for continued AID assistance to SODEVA, each of which has different programmatic implications for both organizations. In reviewing these options, the USAID should bear in mind a) that the evaluation team was not completely aware of all possible scenarios within the Mission regarding future priorities and funding vehicles, and b) that whatever option is chosen will inevitably have a rather critical impact on SODEVA's existence, given other-donor withdrawal of funding, and IFAD's resolve to operate its re-evaluated project as a self-contained entity for the immediate future, until SODEVA's mission and the GOS policy toward cooperatives are resolved.

Option 1. Extend the present LOP of Phase II by 24-36 months, with some increase in dollar and local currency funding. This would allow some long-term participant training; completion of the WID component targets; improvement in the amount of audio-visual material and approaches available; the extension of the TA agronomist's contract as requested by SODEVA; and additional trials and the development of a soil conservation/soil regeneration plan to be implemented subsequently by SODEVA, ISRA and other relevant GOS agencies. Other project objectives which are not likely to be achieved — e.g., production increase targets, some procurement, some construction—should be modified accordingly. This may imply a PP amendment process, which is time-consuming, but which might provide a venue for improved communication between AID and SODEVA in the redesign process. It also implies continuing in a project funding mode, which has a number of implications for the balance of the Mission's project/program portfolio, and especially for project management resources within the Mission and within SODEVA.

Option 2. To the extent that the USAID wishes to have a direct impact on agricultural policy issues that relate to SODEVA's mandate and performance (and which are essentially beyond SODEVA's control), the Mission could move to a combination of DA project and ESF program assistance. The ESF would be conditional on some policy changes which, in turn, would allow SODEVA to function properly as an extension agency shorn of its other functions of distribution, marketing, etc. The DA dollar funding would make possible a) long-term participant training, b) U.S. short-term technical assistance, and c) some commodity procurement from the U.S. to support some pilot activities in the soil conservation/regeneration area. ESF (or Title III) local currency could be used to continue to fund some proportion of SODEVA operating costs and local salary support. This option — especially if Title III currency generations are used rather than ESF — takes into account that the Mission already has an approved Title III extension, which incorporated support for a soil regeneration fund. If dollar funding can be associated with this without the necessity of keeping a DA project on the books, the management load should be substantially be reduced.

Option 3. Like Option 2, this approach implies a further departure from DA project funding, but continued medium-term support for SODEVA operations in the present project zone, to achieve the same revised objectives, including soil conservation/regeneration, in cooperation with ISRA and other agencies. Under this option, a combination of dollar and local currency funding would be provided to the GOS through a PAAD, which would be attributed against specific SODEVA operating costs and some U.S. TA and commodities. A CP could be included in the PAAD requiring the same sorts of policy changes as in Option 2. Here, there would be no DA funding per se in projectized form. SODEVA would get a direct resource transfer, and some requisite TA. This would eliminate a good deal of project management intensivity on AID's part as well as on that of SODEVA, and would solve a number of the persistent accounting/financing/reimbursement problems that have characterized project assistance to date.

There is, a fourth option, which is to let the current LOP run out, having scaled down the project's objectives accordingly, and taking into account the likelihood that not all of the money in the pipeline can be spent in the next ten months in any useful manner. Later, when things are clearer on the GOS and the AID side, assistance could be started again, either of a program or project kind. This option is not recommended by the evaluation team for a variety of reasons, not the least of which is that it would most probably, by causing a hiatus in funding for SODEVA's operations in the present project zone, lead to SODEVA's gradual demise. This kind of an outcome goes against the conclusion of this evaluation to the effect that SODEVA is a viable organization with an important and manageable set of activities to perform.

The recommendations which follow could all be implemented under any of the three options discussed above.

VI. RECOMMENDATIONS

1. That USAID/Dakar continue dollar and local currency funding to support SODEVA's extension and ISRA/SODEVA applied research activities in the project area (Thies and Diourbel), over the medium term (three-five years). This assistance should be used to strengthen SODEVA's ability to extend new recommendations for continued crop diversification, related livestock activities, and soil conservation and regeneration activities.

2. That the budget responsibilities for ISRA/SODEVA off-station trials be redefined in the ISRA/SODEVA Protocol to enable better management of funds allocated for these activities.

3. To avoid further communication problems regarding finance and controller functions, that a) a meeting between senior USAID Controller Office personnel and senior management at SODEVA take place very soon, b) that consideration be given to SODEVA financial personnel being involved in AID's Sahel Regional Management Project.

4. Regarding the WID component, a) that funds be provided immediately for the anticipated training of monitrices at ITA in food preservation, b) for short-term training for these same two monitrices by CDH in gardening/horticulture; c) that 2-3 additional monitrices be hired and trained so that d) over the next year or two, the original 28-village target can be attained, while those villages that have been included for the longest period can have their initial income-generating activities reinforced and/or amplified; and e) funds be made available, and necessary USAID/SODEVA/Ministry of Hydraulics collaboration take place, so that wells can be dug and/or improved in WID villages as anticipated in the PP.

5. That under the WID component, a) millet mills be procured and placed in those WID villages whose women's groups have already paid their credit advance installment. Additionally, b) that purchase of a range of types of additional mills be funded by AID so that a controlled comparison can be made by SODEVA, ISRA— and the women's groups—to determine which types of mills are most cost-effective, and require least maintenance; c) that USAID seek information from VITA, ATI/Washington, and other appropriate agencies concerning the availability of manually-operated millet threshers, peanut decorticators, and peanut-butter making machines. Depending on the outcome of this information search, funds should be allocated for the purchase of at least one prototype of each machine and its placement in one of the WID villages, with appropriate ancillary training, where required; and d) that planned project funding for WID staff vehicles be discussed.

6. Thirdly, a) short-term TA be provided as necessary to assist the WID Director and her staff to design more effective medium-term income-generating activities for those village women's groups that are already at an advanced stage, and for those that will reach this stage later in an (extended) LOP, as well as to assist in the development of appropriate simple farm records systems, and of improved training in group and financial management skills. These kinds of assistance and/or documentation can be made available by CLUSA, ACDI, and some private consulting firms, as well as the AID WID Office, and the International Center for Research on Women, Washington, D.C., and PAID/Ouagadougou. Short-term TA could be substituted or complemented by a short trip by the SODEVA WID Director to the U.S. and/or Ouagadougou for this specific purpose.

7. a) That AID approve SODEVA's request for extension of the TA agronomist's contract for the additional six months requested since her qualifications and experience are well-suited to the current ISRA/SODEVA applied research. A short-term (6 mo.) soil scientist with sound background in soil conservation and experience in practical aspects of soil management in arid conditions could be provided to strengthen the soil conservation themes of ISRA/SODEVA applied research activities and to upgrade the off-station trials in the direction of the soil conservation and regeneration program under consideration, b) that after the expiration of the present TA contract for the agricultural economist now in place, USAID work with SODEVA to determine whether further short-term U.S. assistance is desirable following the U.S. training of the DEP statistician and short-term U.S. training for one or more

other DEP staff. These decisions cannot be made at this point in time given the lack of clarity about what SODEVA's staffing pattern will be six months from now.

8. That the possibility of increasing the number of applied research trials be considered in order to increase their validity, and the variety of themes addressed. The trials, where appropriate, should be designed with the aim of soil conservation and regeneration in view, and where possible, some women farmers should be included as trial participants.

9. That the number of field trips to ISRA/SODEVA off-station trial sites organized for all concerned ISRA and SODEVA personnel be increased to two each year as proposed in the Programme de Tournées Conjointes ISRA/SODEVA 1983-84. The first trip should take place in the initial part of the growing season and the second toward the end.

10. That Information Visits be organized at CNRA at least twice each year for all SODEVA personnel concerned with ISRA/SODEVA off-station trials as proposed in the Programme de Tournées Conjointes.

11. That the representatives of SAFGRAD, the CRSPs, ICRISAT and other relevant research activities be invited to participate in the annual ISRA/SODEVA meetings so that the links of applied research with other research actions are strengthened. The SODEVA Documentation Center's capability to procure all relevant publications should be increased.

12. That a cadd (Acacia albida) promotion program be initiated by SODEVA to gradually increase the density of the tree population in the area up to 50/ha, as recommended in a recent review by Freeman.

13. That as much effort as possible be put into creating a viable Audio-Visual Unit at the CETAD in Pout now that the buildings and most of the equipment are finally in place but that, in addition, the mobile vans with appropriate equipment be procured as soon as possible. Additional short-term training should be considered for A-V team staff, as well as some additional staffing as required. The replacement short-term audio-visual specialist be may be complemented, if desirable after her one-month trial period, by additional short-term TA specifically in the area of functional literacy training and methodology. This could, alternatively, be provided by members of the USAID/Dakar PDO Human Resources Development Group, if they are available.

14. That a) an information management systems specialist with a background in computer data processing be provided for three to six months to work with the DG SODEVA and the DTO and DEP Directors to determine whether data now being collected and analyzed are appropriate given who the end-users are, how they can better be exploited, and how information flows and report preparation within SODEVA and between SODEVA and ISRA, where relevant, can be improved. This person would also examine the present documentation service system and assess needs for microfiche, and other documentation materials, giving funding specificiations, and review requirements at delegation level for micro-computers and programmable calculators.

15. Given the arrival of the AID-funded Apple III, and the existence in SODEVA of an Apple II, training should be given in Dakar to a number of SODEVA management staff and some technical division heads on the uses of the computers, and the specialist called for in recommendation 13 should make recommendations about appropriate software, which could then be purchased with AID funds. The Dakar-based training could be provided to SODEVA staff through the planned MSU computer methods course for ISRA staff to be funded under the FSR project in Spring, 1984.

16. USAID and SODEVA should decide jointly, in terms of mutual acceptance and rejection of individual recommendations herein—especially duration and types of funding—whether to reinstate some long-term participant training in the U.S.. If a favorable response is forthcoming, then a) the present deputy training director should be sent for a MS in Communications, e.g., at Michigan State or Cornell and b) a SODEVA sociologist or economist should be sent for a MS in agricultural economics. As to short-term participant training, the DEP statistician should be sent to the U.S. for a course in farm management (e.g., at MSU) and the DEP agronomist should be sent to the U.S. for short-term exposure to ag.econ. computer analysis techniques. At least one other SODEVA senior cadre who will remain involved in AID-funded activities should be sent to the World Bank project management course.

17. The USAID should reconsider funding some of the studies called for in the Master Plan terms of reference for the Groundnut Basin. These might include the study on functional literacy and the organization of youth programs. Decisions about refined terms of reference, and study duration (s), as well as types of TA required, should be carefully made <u>with</u> SODEVA, and with ISRA where appropriate.

18. In future, whatever the type of funding and LOP determined appropriate by the USAID and SODEVA, project managers in the respective organizations should be able to interact directly. The USAID project manager should not have to meet separately with a variety of technicians and managers in SODEVA, nor should the SODEVA personnel continue to be given the impression that there are "too many chiefs" in on the decision-making about the project and its implementation at USAID. The system of semi-annual joint meetings at which the SODEVA DG and the USAID Director or Deputy Director are present should be revived, starting with such a meeting to decide on acceptance and implementation of the evaluation report recommendations.

19. SONED should be requested to provide the USAID with a) access to its data base for the "Beneficiary Study", b) a substantially revised methodology section in its final report, c) substantially better agronomic data analysis and d) if possible, analysis and conclusions about SODEVA field-level presence, farm income improvement given project inputs, and overall conclusions about project viability and SODEVA performance.

TABLE 1

Cereals (millet) Production

DEPART	PROJECT PAPER			SOURCE REVISED			ACHIEVED		
YEAR	AREA 1,000 ha	YIELD kg/ha	PRODUCTIONS 1,000T	AREA 1,000 ha	YIELD kg/ha	PRODUCTIONS 1,000T	AREA 1,000 ha	YIELD kg/ha	PRODUCTIONS 1,000T
Bambey									
1978	50	591	29.5				57.2	800	45.8
1979	50	610	30.5				56.8	600	33.8
1980	50	655	32.7				47.2	417	19.7
1981	50	735	36.8				55.9	826	46.2
1982	50	830	41.5	50.0 - 51.0	600 - 830	30.0 - 42.3	46.9	586	27.5
1983	50	910	45.5	50.0 - 53.5	750 - 910	37.5 - 48.7	39.6	600	23.8
Diourbel									
1978	43	506	21.8				51.3	799	41.0
1979	43	535	23.0				54.8	413	22.7
1980	43	560	24.2				42.0	334	14.1
1981	43	635	27.3				55.2	470	42.5
1982	43	730	31.4	43.0 - 50.0	600 - 730	25.8 - 36.5	38.7	524	20.3
1983	43	785	33.8	43.0 - 54.0	700 - 785	30.1 - 42.4	36.8	277	10.2
M'Backé									
1978	36	435	15.6				49.9	800	39.9
1979	38	460	17.5				49.4	369	18.3
1980	40	490	19.6				56.3	352	19.1
1981	42	565	23.7				49.6	910	45.1
1982	44	655	28.8	44.0 - 49.0	600 - 655	26.4 - 32.1	45.1	248	13.4
1983	46	740	34.0	46.0 - 52.5	650 - 740	29.9 - 38.9	31.9	260	8.3
Thiès									
1978	35	465	16.2				24.5	992	23.3
1979	35	490	17.2				15.0	545	8.2
1980	35	560	19.6				37.3	386	14.4
1981	35	630	72.0				34.7	1,042	36.2
1982	35	715	25.0	35.0 - 39.0	650 - 715	22.8 - 27.9	32.0	629	20.1
1983	35	820	28.5	35.0 - 40.8	700 - 820	24.5 - 33.5	25.0	260	6.5
Tivaouane									
1978	58	430	25				47.7	1,157	36.2
1979	58	455	26.5				44.0	792	34.8
1980	58	490	28.5				72.1	434	31.3
1981	58	560	32.5				45.4	1,279	58.0
1982	58	680	39.5	58.0 - 82.5	650 - 680	37.7 - 56.1	74.2	439	32.6
1983	58	745	44.4	58.0 - 85.0	700 - 765	40.6 - 65.0	69.2	269	18.6

TABLE 2

Supply of Inputs From 1980-1983

REGION YEAR	SOUNA III MULTI.	SOUNA III EXTENSION	COWPEA MULTI.	COWPEA EXTENSION	FERTILIZERS	AGRIC MACHINERY
Unit	T	T	T	T	T	
Thiès						
1980/81	-	64.0	0.5	4.5	10,347	-
1981/82	-	0.03	-	7.9	3,380	-
1982/83	1.4	26.0	-	15.0	683	-
1983/84	2.2	5.0	-	4.0	606	-
Diourbel						
1980/81	-	-	-	3.6	8,135	-
1981/82	-	5.1	-	2.5	3,565	-
1982/83	1.5	32.5	-	6.0	197	-
1983/84	0.4	8.0	-	12.5	119	-

Sources: Bilans Annuels SODEVA
For the Year 1983/84 Fertilizers: Sales By Input Division.

TABLE 3

RAINFALL 1960-1983

ANNEES	DIOURBEL	LOUGA	SINE-SALOUM	THIES	BASSIN ARACHIDIER
1960/61	739	523	601	640	626
1961/62	566	448	664	635	579
1962/63	621	346	592	969	632
1963/64	579	451	644	556	558
1964/65	726	495	876,5	727	707
1965/66	563	449	655	544	553
1966/67	604,5	371	180,6	530	422
1967/68	858	667	907	828	815
1968/69	340	237	441	330	337
1969/70	571	372	654	624	556
1970/71	386	285	482	684	460
1971/72	564	296	771	327	490
1972/73	410	205	415	202	308
1973/74	307	272	464	476	380
1974/75	538	341	564	555	550
1975/76	453	267	694	668	521
1976/77	443	284	540	415	421
1977/78	302	250	415	290	315
1978/79	571	331	941	580	606
1979/80	478	246,5	571	412	427
1980/81	349,2	327,6	435,8	393,6	377
1981/82 *	442,6	319,5	656,6	427,9	462
1982/83 *	364,4	308,4	562,2	457	423
1983/84	235,7	158,4	396,8	262,5	263

Source: Documents DGPA
* Rapports SODEVA

TABLE 4

Average Rainfall Over Selected Period (in mm.)

Regions/Periods	1930-60	1960-81	1971-80	1976-80	1976-83
Thiès	684	542	432	418	405
Diourbel	700	522	442	429	398
Louga	465	355	282	288	278
Sine-Saloum	797	616	581	581	565

Source: Bassin Arachidier: Schéma Directeur, Aurora Associates, Inc.

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Table 5

SODEVA STAFFING LEVELS

Permanent Civil Servants

	1980/81	1981/82	1982/83	1983/84
H.Q. DAKAR	19	16	19	18
KAOLACK	206	153	125	110
THIES	61	57	53	54
LOUGA	47	65	63	58
DIOURBEL	52	45	56	51
CETAD	20	6	8	8
TOTALS	405	342	324	299

Contract Personnel

H.Q. DAKAR	53	74	71	72
KAOLACK	798	469	467	446
THIES	190	154	158	164
LOUGA	125	179	184	193
DIOURBEL	219	187	166	166
CETAD	16	25	20	21
TOTALS	1401	1088	1066	1061
TOTAL PERSONNEL	1806	1430	1390	1360

TABLE 6

	1980/81			1981/82		
	Field and Support Staff	Mid-level Staff	Senior Staff	Field & Support Staff	Mid-Level Staff	Senior Staff
H.Q. DAKAR	45	18	9	54	22	14
CETAD	17	19	0	20	10	1
THIES	199	48	4	158	55	3
DIOURBEL	204	64	3	170	59	3
SODEVA TOTAL	1379	405	22	1051	350	29

	1982/83			1983/84		
H.Q. DAKAR	44	26	20			
CETAD	19	9	0			
THIES	149	55	7			
DIOURBEL	160	57	5			
SODEVA TOTAL	997	343	50	967	343	50

	1980/81 %	1981/82 %	1982/83 %	1983/84 %
SENIOR CADRES	1.2	2.02	3.6	3.67
MID-LEVEL CADRES	22.4	24.5	24.7	25.22
FIELD LEVEL STAFF	76.3	73.5	71.1	71.10

TABLE 7

Geographical Spread of SODEVA Personnel

	1982/83	
	H.Q. CETAD	REGIONS
Agriculturalist	7	11
Civil Works Engineer	2	1
Statisticians	1	—
Sociologists	3	4
Animal Husbandry	1	5
Economists	1	5
Surveyor	1	—
TOTAL	42	
Technician Supervisors		
I.T.A.	6	54
I.T.E.	—	4
I.T.E.F.	—	1
I.T.R.	1	—
I.T.S.	1	—
Inspectors	2	10
TOTAL	80	
Technicians		
A.T.A.	7	170
A.T.C.	—	2
A.T.E.	—	45
A.T.E.F.	—	2
Monitrices Rurales		
Assistantes Sociales		
Draftsmen		3
		1
	3	—
TOTAL	233	
Base Extensions Workers etc.		
Enumerators	—	86
Storemen	1	60
Base Extension Workers	—	579
Agric. Workers	—	6
TOTAL	732	
Management		
Senior Management (administration)	1	—
Senior Management (operations)	3	4
Middle Management		
D.U.T.	3	—
Accountants and Checkers	9	6
Administrative Staff	4	8
Office Employees	25	49
Auxillary Personnel	31	160

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ANNEX 1

Beneficiary Survey

The survey of beneficiaries of the Senegal Cereals Production Project was commissioned by USAID from la Société Nationale d'Etudes et de Développement (SONED), a local quasi-governmental consulting company. The survey was designed to examine effects of the project in the areas of sociology, training, agriculture, agricultural economics, the economic integration of women, animal husbandry and agricultural research.

The survey was confined to the project area and therefore did not look at the project's impact on the capability of SODEVA as a whole as an extension organization serving the entire Groundnut Basin.

The term "beneficiary" changed between Phases I & II of the project, from the more rigid categorization of the adoptors of particular intensification themes to the flexible approach adopted by SODEVA latterly -- and considered more appropriate -- in recognizing the variability of each farmer's individual circumstances.

The survey was based on a sample of 100 villages where information was gathered on a semi-direct method of group meetings, and 750 farms where direct survey methods were applied on the basis of questionnaires which had been agreed in advance with USAID (SODEVA had no input). There appears to have been some difference of sentiment on this survey, as SODEVA felt that it was they who were being evaluated at USAID's level. It is clear that the DEP felt that they should have conducted the survey and said that it had been their intention to do so had AID not commissioned the SONED study. AID made the point that both SODEVA and ISRA were consulted on the terms of reference and the questionnaire and the revised question was presented to them. SODEVA did not make any comments on the revised questionnaire, thinking that to do so would be inappropriate from an "evaluee".

The results are presented in the form of two documents: a) a report in which the results are discussed and presented in summary table form; b) a volume of tables which summarizes the raw data.

Unfortunately, the criticism which was universally levelled at the report on virtually every topic was that quantitative data were too frequently presented as they stood, with little attempt being made to interpret it qualitatively. In the case of beneficiary opinions stated, no contextual information is given; data on agricultural inputs or family revenue were presented in a form which was not usable, e.g., the number of kgs./head of fertilizer purchased without reference to the area farmed, or the costs and revenues of all the farmers in one department without explanation as to the area this referred to or the number of farmers involved.

DOCUMENT SUMMARY

Document Id: 0130A
Document Name: SODEVA ANNEXES
Operator: Souham Wehbe
Author: King/Morton

Comments: Cereals II Project

STATISTICS

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ANNEX 2

Evaluation Team - Meetings Schedule and Itinerary

Nov. 4, 1983	Arrival Dakar, King and Morton - initial meeting, and SODEVA (separately).
Nov. 5, 1983	King, Morton - documentation review
Nov. 7, 1983	King, Morton - SODEVA evaluation planning meetings
Nov. 8, 1983	Arrival Dakar, Adamec, team meeting McMahon and Balis
Nov. 9, 1983	Team participation CILSS Meetings
Nov.10, 1983	Team meetings with Fall, Faye, ISRA; USAID Director, ADO, PDO.
Nov.11, 1983	Documentation review, meetings ADO and SODEVA.
Nov.12, 1983	Report Outline prepared, key questions prepared, meeting with McMahon, documentation review.
Nov.14, 1983	Adamec - ISRA/SODEVA/USAID meeting-soil regeneration, King, Morton, SODEVA DTO Division Directors meeting, dinner meeting Saad and Craven-Diagne.
Nov.15, 1983	Team visit to CETAD, Pout.
Nov.16, 1983	Documentation, King-donor meetings on ag.policy, Adamec to Thies and Diourbel, and CNRA-Bambay.
Nov.17, 1983	Morton, King-donor meetings; Adamec field, Morton, King, meeting with IFAD project controller.
Nov.18, 1983	Team, field visit to Thies; Adamec p.m. Diourbel.
Nov.19, 1983	Morton, King-donor meetings; Adamec, field and return, documentation review, meeting McMahon, Balis.
Nov.21, 1983	Meetings SODEVA, USAID, documentation, team meeting with SODEVA Director General.
Nov.22, 1983	Morton - Pout DEP meeting; King Thies Delegation; Adamec - SODEVA TA agronomist.

Nov.23, 1983	King-Diourbel Delegation, Morton-USAID finance meeting, meeting with WID Officer, logistics.
Nov.24, 1983	Draft report preparation initiated.
Nov.25, 1983	Meetings USAID, SODEVA, report preparation, meeting with Sam Rea.
Nov.26, 1983	Report preparation; meeting McMahon; meeting Walker, Aurora Associates, SODEVA-DEP.
Nov.28, 1983	Adamec, Morton field visits Thies-WID and research trials; King meetings other GOS agencies.
Nov.29, 1983	Same; King to field also.
Nov.30, 1983	Adamec, Morton, King and SODEVA TA team field visits Diourbel, WID and research trials.
Dec. 1 ,1983	King-DEP, Adamec, Morton field visits Diourbel.
Dec. 2, 1983	Adamec, Morton, McMahon, Bathily, field visits.
Dec. 3, 1983	Team meetings other GOS agencies; report preparation.
Dec. 5, 1983	Team meetings, SODEVA, USAID; report preparation.
Dec.7-9,1983	Report preparation and translation.
Dec.10-17,1983	Review of Draft Report, Final Report Preparation.

Annex 3

PARTICIPANT TRAINING STATUS

Report Period Sept 1, 1982 - May 1, 1983

Project Name Cereals Production II

Project Number 685-0235

Life of Project

Number of L-T Participants 4
Number of S-T Participants 8
Number of Third Country Participants _____

NAME	AGENCY	SUBJECT (Degree)	LOCATION	DEPARTURE	FUNDED TO	COMPLETION
Alioune KANE	SODEVA	MS-Agronomy	Oklahoma	Nov. 81	Jan. 83	Jan. 83
Decour WADE	SODEVA	Ag. Communication	Indiana	Nov. 80	Dec. 81	Dec. 81
Benjamin DIOUF	SODEVA	Management	Pittsburg	June 82	Aug. 82	Aug. 82
El Hadj Ousmar TOURE	SODEVA	Trip to US	-	April 82	June 82	June 82
Marie KANE	SODEVA	Management	Washington DC	April 83	May 83	May 83
Malamine SAVANE	SODEVA	Ag. Communication	Montpellier	April 83	July 83	July 83
Adama CISSE	SODEVA	Management	Pittsburg	June 83	Aug. 83	Aug. 83
Modou SENE	CNRA	MS- Soil Science	N. Carolina State	Nov. 80	Dec. 83	Dec. 83 est.
Ndiaga CISSE	CNRA	MS-Plant Breeding	California	Nov. 80	June 83	June 83 est.
Moustapha DIOP	CNRA	Seed Improvement	Mississippi	June 82	Aug. 82	Aug. 82
Mahawa MBODJ	CNRA	Trip to US		Sept. 81	Oct. 81	Oct. 81
Abdou Khemes NDONG	CNRA	Post Harvest Technology	Kansas State			Cancelled
Marie KANE	SODEVA	Lomé, Ouagadougou		June 81	June 81	June 81

ATTACHMENT N°2 Terms of Reference

Stage 2: Comprehensive Followup Evaluation:

A US contract Anthropologist, an Extension Agronomist, and an Agricultural Economist along with one or more representatives of SODEVA and ISRA will conduct an extensive followup evaluation of the Cereals II Project. The evaluation team will analyze the effect of the SODEVA program in the project areas of Thiès, Bambey, Diourbel, Tivaouane and Mbacké on the production of food crops and livestock and the resulting increase in small farmer incomes. Secondly, the team will assess the effectiveness of USAID support to SODEVA in up-grading its extension staff, strengthening SODEVA's ability to produce and use audio-visual extension aids, enhancing SODEVA's ability to collect and analyze data on the macro and micro-economic effects of its activities in the basin, reinforcing the links between applied research and extension, and creating a viable Women's Extension Unit to insure their integration in the economic development process. This evaluation will entail an in-depth institutional analysis addressing: the appropriateness and extent of training being provided to SODEVA personnel given the evolving social, agronomical, economical and political situations affecting the basin; the extent to which long and short-term technical assistance provided thus far has strengthened SODEVA's programs; the degree to which results of joint ISRA/SODEVA research trials are being incorporated into the extension themes promoted by SODEVA; the adequacy of SODEVA's data collection and analysis system to provide continual feedback to SODEVA, other GOS agencies and donors including USAID on the macro and micro-economic effects of extension activities; the nature and level of audio-visual extension aids being produced as a result of USAID support and how well they meet the needs of the extension workers and, directly or indirectly, of the agricultural producer; and to what extent WID activities have resulted in strengthened women's groups and an increase in their economic and decision-making roles.

The team will assess the current validity of the original project assumptions, review any modifications which have been made in project objectives and determine to what extent current project objectives have been obtained. In evaluating the

effectiveness of SODEVA's interventions on increased cereal production in the project zone and of AID's contribution to the SODEVA program, the team will address the usefulness of the various projects' components. These are discussed below.

A. Technical Assistance

The project has furnished three long-term technical assistance personnel, an Agronomist, an Agricultural Economist, and an Audio-visual Specialist as well as several short-term consultants. The evaluation will attempt to answer the following questions: To what extent has the provision to SODEVA of long and short-term technical assistance resulted in a strengthening of SODEVA as an extension agency and directly or indirectly had an impact on production practices employed and yield levels obtained in the project area? Is the current placement of long-term technical assistance within the SODEVA structure maximizing the use of this resource in achieving project objectives? Are the technical assistance personnel providing direct training to their Senegalese colleagues? If so, in what area is training given and how effective is this training? The evaluation team will give recommendations on the nature and use of technical assistance for the remainder of the project.

B. Training

Long-term masters level training and specialized short courses for SODEVA and ISRA personnel as well as training to upgrade the capabilities of SODEVA field agents have been funded through this project. The evaluators should look at how appropriate and effective this training has been and the degree to which this training has strengthened SODEVA's extension program and ISRA's research efforts. The team will provide recommendations on the use of remaining project training funds.

C. Commodities

A large amount of commodities including vehicles, audio-visual equipment and materials, agricultural research equipment and agricultural production equipment and supplies were purchased under this project. The evaluation team will look at the impact that the provision of these items had on improving research and extension programs contributing to the adaptation of modern production techniques.

The evaluation team will discuss with ISRA-CNRA and SODEVA their priority needs for equipment and materials and make recommendations on any changes in the commodities to be procured to meet project objectives.

D. Construction

Funding was provided for the construction of research and extension facilities. The evaluation will assess whether this has resulted in enabling SODEVA and ISRA-CNRA to more effectively provide their services to the rural populace.

E. Operational Support

The evaluation team will determine how effective the operational support to both SODEVA and ISRA-CNRA has been in enabling these agencies to address through research and extension interventions the needs and concerns of the agricultural producer. The phasing in over time of Government of Senegal financial support to these two agencies will be analyzed to ascertain the prospects for continuation of the activities initiated under the USAID project.

EVALUATION METHODOLOGY

A. The joint GOS/Contract evaluation team will meet with USAID, SODEVA and ISRA officials to receive an orientation to the project area and an explanation of USAID evaluation requirements.

B. The evaluation team will review relevant project documents, the results of the beneficiary survey and the data organized by the anthropologist prior to conducting field visits or meetings with GOS officials.

C. The team will meet with officials from SODEVA, ISRA, Ministry of Rural Development, SONAR, CAA, DGPA Inspection Régionale, World Bank, Caisse Centrale, FAO and visit representative villages in each of the project administrative zones.

D. The team will prepare a draft report summarizing its major findings on the impact of SODEVA's operation and USAID support through the Cereals II project in each of the five areas involved (i.e. Thiès, Bambey, Diourbel, Tivaouane and Mbacké) and its recommendations on how the project components

might be better utilized to achieve project objectives. This draft will be discussed with GOS and USAID officials and a final report subsequently completed and submitted by the team prior to its departure.

E. Each team member will prepare an annex to the evaluation based on his/her terms of reference.

F. The team leader will prepare the executive summary on technology transfer based on the questionnaire provided by the Africa Bureau of AID/Washington.

The contract team will spend approximately six weeks in Senegal with this split between investigation and writeup of draft report (4 weeks) and discussion and revision of findings and recommendations (2 weeks). The team leader is responsible for insuring the submission of the final evaluation report and annexes in a format which meets USAID evaluation requirements. The team will interact at all phases of the evaluation with each other, the GOS representatives of the design team and the USAID project manager. The USAID project manager will provide logistical and administrative support to the team. Terms of reference are given below for the individual team members.

PIO/T Senegal Cereals II Production 685-0235

Scope of Work - Team Members

A. Rural Sociologist/Cultural Anthropologist

The rural sociologist/cultural anthropologist team will examine and report on:

1. The effectiveness of the SODEVA extension personnel in reaching the rural populace with appropriate recommendations given the production constraints and the desires and needs of the people.

2. The degrees to which the creation of a Women's Extension Unit and activities promoted by this unit have favorably impacted on improving the economic situation of women in the project area.

3. The success thus far of SODEVA's program to upgrade its field staff to better meet the needs of the rural populace.

4. And provide recommendations on reorientating project activities.

Qualifications

1. MS or PhD in rural sociology or cultural anthropology.

2. Experience in developing countries preferably in Africa.

3. French language ability FSI S3, R3.

B. Extension Agronomist

The extension agronomist will address the adequacy of inputs in achieving present objectives by assessing and reporting on:

1. The nature and severity of constraints affecting agricultural production in the project area.

2. The effectiveness of the ISRA/SODEVA off-station research trials in developing appropriate recommendations for dissemination to the rural populace.

3. The suitability of extension themes being promoted by SODEVA given the above constraints.

4. The receptiveness of agricultural producers to the themes being promoted by extension agents and the effectiveness of the methodologies used in disseminating information. The receptiveness of the women to agricultural themes will be given special attention in light of the WID component of the project.

In addition he/she will examine:

5. The degree to which crop production and diversification is being actively and successfully encouraged by the project.

6. The degree to which livestock production is incorporated into the farming system.

7. And provide recommendations on specific pilot activities and/or agricultural research needed to attain current project objectives.

Qualifications:

1. MS or PhD in Agronomy or related field.
2. Experience in developing countries preferably including Africa.
3. Minimum French language ability S3, R3.

C. Agricultural Economist (Team Leader)

The Agricultural Economist will evaluate and report on the following:

1. The micro and macro economic impact of the project activities paying particular attention to the trends of farm households in applying improved agricultural practices resulting in yield and income increases, and on WID activities. The integration of women in the economic development process should be given special attention.

2. The adequacy of SODEVA's data collection and analysis system in accurately assessing changes over time in the project area, in particular in the adoption of new practices.

3. Analyze with the other team members, the impact that GOS policies have had on achieving project objectives. GOS policies affecting input supply and distribution, community organization, agricultural credit and marketing will be reviewed.

a1

In addition, he/she will provide recommendations for specific economic studies and/or data collection/analysis procedures which SODEVA, ISRA or others could undertake to better assess the needs of the rural populace and measure the impact of project activities on an ongoing basis.

Qualifications

1. MS or PhD in agricultural economics.
2. Experience in developing countries, preferably in Africa.
3. Minimum French language ability FSI S3, R3.

ACRONYMS

GOS - Government of Senegal

SODEVA - "Société de Développement et Vulgarisation Agricole" (Groundnut Basin Development Agency)

IBRD - International Bank for Rural Development

FAC - French Development Agency

FED - European Community Development Agency

CNRA - Centre National de Recherches Agricoles

CETAD - Centre d'Entrainement aux Techniques Agricoles (SODEVA Training Center at Pout

ISRA - Institut Sénégalais à la Recherche Agricole

TL - Theme Leger

TB - Traction Bovine

TBFF - Traction Bovine Fumure Forte

I & E Center - Information and Extension Center

ONCAD - GOS Marketing Agency

SATEC - Société d'Aide Technique et de Vulgarisation

ATA - Technical Agent for the Arrondissement

ATCR - Technical Agent for the Rural Community

EB and VG - Lowest level extension agents

ER - Renomination of EB's and VG's after upgrading

USG - United States Government

WID - Women in Development

BNDS - Senegalese National Development Bank

UNICEF - United Nations International Children's Emergency Fund

FCFA - Senegalese currency equals approximately 210 FCFA to US $ 1.00

UF - Unité Fourragère (Forage Unit)

MAD - Matériel Azote Digestible (Digestible Protein)

UBT - Unité Bovine Tropicale (Tropical Animal Unit)

MT - Metric ton

DEP - Direction de Planification et Evaluation

DTO - Direction Technique et d'Operation

SONAR - GOS Marketing Agency replacing ONCAD

MDR - Rural Development Ministry

SSEPC - Societe Senegalaise d'Engrais et Produits Chimiques

RDA - Regional Development Agency

ACTR - Assistant Technique de Communaute Rurale

LOP - Life of Project

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AFRICA BUREAU EVALUATION SUMMARY - SENEGAL CEREALS PRODUCTION II

I. What Constraint did this Project Attempt to Relieve?

This project attempted to relieve the technology transfer constraint regarding cereals production and crop diversification in the northern zone of the Groundnut Basin of Senegal. Before Phase I of the Project, a gap between research and extension was preventing the flow of messages and recommendations in both directions. The project has succeeded in bridging the gap, and enabling the technology transfer from research to extension and from extension to the farmer to take place. Adaptive, applied research conducted with farmer participation on farmers' fields is now being carried out by ISRA and SODEVA together as a result of project activities. Farmer participation leads to improved feedback from the farmer through SODEVA, the extension agency, to ISRA, the research organization.

II. What Technology did the Project Promote to Relieve this Constraint?

As noted above, jointly designed and managed adaptive research trials, have been conducted and evaluated, and a system for economic analysis of recommendations resulting from these trials has been developed and tested. Additionally, the basis for a productive audio-visual unit in SODEVA has been created, through commodity procurement and construction, as well as technical assistance, provided under the project. Upgrading of extension workers has also been part of project activities, as well as some long and short-term participant training for senior SODEVA staff. In addition, SODEVA has, under the project, promoted technology leading to a) increased production through use of fertilizers, insecticides and improved crop varieties (millet, groundnut), and new management practices (early thinning of millet , appropriate planting dates, etc.); b) increased diversity in farm operation, such as the introduction of new crops (cowpeas, manioc and vegetables), cattle and sheep fattening, and village woodlots; c) improved grain storage through use of insecticides and d) labor-saving devices for women leading to increased agricultural production and income-generation.

III. What Technology did the Project Attempt to Replace?

The project attempted to replace low-input techniques relying on less productive crop varieties, less appropriate management practices combined with little diversification of the farm operation and associated high labor demand.

IV. Why did the Project Planners Believe that Intended Beneficiaries Would Adopt the Proposed Technologies?

The increased crop production and diversification of farm operations resulting from the adoption of the technological changes promoted under the project would increase farmer incomes, and farm family incomes, as well as improving family nutritional status, while in some cases, relieving labor constraints. The design for Phase II additionally benefitted from the experience of non-adoption of other technologies by beneficiaries under Phase I, and made appropriate changes accordingly.

V. What Characteristics did the Intended Beneficiaries Exhibit that had Relevance to their Adopting the Proposed Technology?

Intended beneficiaries had adopted new technologies promoted under Phase I when these were affordable and accessible. Farmers in this area have been involved in cash cropping since the 19th Century, and are very open to innovation. During the design of Phase II, the PP team benefitted from data available from a beneficiary study carried out at the end of Phase I, and an in-depth social analysis for the Basin that had been carried out previously by a member of the PP team. Additionally, the Phase II design provided for functional literacy training and the development of audio-visual extension materials in support of the recommendations arising from applied research on farmers' fields.

VI. What Adoption Rate has this Project Achieved in Transferring the Proposed Technology?

Interviews with farmers conducted by this team indicated that a high rate of receptiveness toward the proposed technology. A separately-conducted beneficiary survey commissioned by the USAID before this evaluation which asked beneficiaries attitudinal questions indicated that at least 50% of beneficiaries surveyed had adopted some recommendations. However, higher levels of adoption were curtailed by the fact that recommended inputs and credit had been suspended in the project area almost from the beginning of project implementation, due to macro-level policy changes made by the GOS.

VII. Has the Project set Forces in Motion that will Induce Further Exploration of the Constraint and Improvements to the Technical Package Proposed to Overcome it?

Yes. Both Phase I and Phase II of the project have established and reinforced the ability of the national research service to work with the extension service and with the farmers in developing improved production practices which will be affordable and which will fit into the farming system.

VIII. Do Private Input Suppliers have an Incentive to Examine the Constraint Addressed by the Project and to come up with Solutions?

There are private suppliers for some of the farm inputs recommended by the project, but their opportunities for expansion of services are limited by current GOS agricultural marketing policies. This evaluation strongly recommends that the extension agency in question divest itself of its input supply functions, and that the GOS change the policy context so as to favor the development of the private input provision sector.

IX. What Delivery System did the Project Employ to Transfer Technology to Intended Beneficiaries?

See above. Also, under the WID component, the project established a WID Unit in the extension agency, which in turn provided extension services directly to village women's groups. Linked to this were functional literacy classes for women on agricultural production themes as well as on home economics subjects. Similar classes were given to a male farmer in each village who, in turn, was supposed to teach village men and women functional literacy in separate classes. This was to be complemented by

the development and use of audio-visual materials, including film, video, slides, and radio programs.

X. What Training Techniques did the Project use to Develop the Delivery System?

The Project's principal training elements include: a) training of extension agents at the SODEVA training center (CETAD), whose facilities were improved with project funding; b) training of extension agents at the research organization's center at Bambey (CNRA), and their participation in the running of joint research/extension applied research trials on farmers' fields; c) audio-visual materials for presenting recommendations to extension agents and farmers and d) long and short-term participant training of SODEVA and ISRA staff in the U.S. and third countries. In addition, the WID component provided in-country training for its two monitrices, literacy training for village women, training for midwives and village sanitarians, training in gardening and maintenance of village woodlots, in poultry production, and sheep fattening. Training in food preservation, mill management, dying, sewing, family hygiene are also provided.

XI. What Effect did the Transferred Technology have Upon those Affected by It?

Men and women farmers in the project area have been gaining the essential knowledge required to increase and diversify production, thus increasing income, beginning to protect the environment through village woodlot production, use of fuel-saving stoves, and improved soil management. Family incomes and nutritional levels are improving as a result of project interventions, as is the status of women in the villages affected, and in neighboring villages.