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AUDIT OF
THE BAKEL IRRIGATION PROJECT IN SENEGAL

Project Nos. 685-0209 and 685-0280

Audit Report No. 7-685-89-10

July 31, 1989

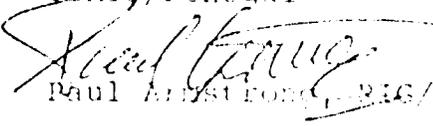
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OFFICE OF THE REGIONAL INSPECTOR GENERAL FOR WEST AFRICA

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July 31, 1989

MEMORANDUM FOR Sara Jane Littlefield, Director,
USAID/Senegal

FROM: 
Paul Armstrong, RIG/A/Dakar

SUBJECT: Audit of the Bakel Irrigation Project
in Senegal

The Office of the Regional Inspector General for Audit/Dakar has completed the subject audit. Five copies of the final report are enclosed for your action.

We appreciated the Mission's extensive comments on the draft report and have included them in their entirety as Appendix 1. While we recognize that there are fundamental differences in our opinions regarding the project's viability, your comments were useful and we have made several revisions in the final report as a result of your suggestions.

Please let me know within 30 days of receipt of this report of further action taken to close the recommendations. I appreciate the cooperation and courtesy extended to my staff during the audit.

EXECUTIVE SUMMARY

The Bakel Irrigation Project in northeast Senegal (original project No. 208 and follow-on project No. 280) is in its thirteenth year. While A.I.D.-financed irrigated perimeters have been built, and are operational, we found no evidence that the private sector has replicated any of these systems with its own funds, a prerequisite to project success. The first project, which expended \$7.8 million between 1977 and 1985 was only marginally successful after four extensions and a \$2 million cost overrun. An \$8.5 follow-on project 1986 was designed to correct some of the previous problems and bring about greater private sector involvement. The goal is to raise the economic performance of village irrigation systems which could establish a viable prototype that private initiative would then adopt and expand.

In April 1989, the project was working on a total of 289 hectares of new irrigation systems. However, we could see no evidence from either the prior project nor the present effort that irrigated farming was commercially viable nor that the private sector would replicate the systems being financed by A.I.D. Twenty-four percent of the irrigation systems built during the first project were abandoned and there was no reliable information on the utilization or profitability of systems constructed under the follow-on project. Private enterprise has not taken over construction of irrigation systems nor has it moved into related areas as fertilizer supply, milling, marketing or pump servicing.

The outbreak of hostilities between Mauritians and Senegalese in the area has also had an adverse impact upon private sector participation. While the project has purchased eighteen pumps costing about \$300,000 for the project, farmers have failed to maintain annual contributions to accounts for pump repair and replacement. Project paper assumptions of rice production surpluses (up to seven tons per hectare) were unrealistic and farmers interviewed during the audit acknowledged that they did not have significant surpluses. The irrigation systems and water pumps bought by A.I.D. were given to the farmers free of charge under the project. The true test of whether the project is worthwhile is whether other farmers replicate the systems with their own resources.

The USAID acknowledges the delays in the technical team's arrival, but feels that the team has been making great strides to accomplish project objectives. The USAID feels

that "it is too early to make a directed judgment call" on whether or not irrigation farming in the Bakel is commercially viable.

In view of the absence of data on profitability, and the delay in arrival of the new technical assistance team, we cannot contest this contention. We therefore are recommending that the forthcoming evaluation be specifically tasked with addressing whether or not a marketable prototype can be developed for replication by the private sector. If the evaluation cannot make a positive assessment in this regard, we recommend that the USAID terminate the project.

We also noted that many construction weaknesses prevalent in the first project had not been addressed in the follow-on project and have recommended that no additional systems be funded until satisfactory design and construction criteria are established to ensure construction quality.

We had also during the course of the audit recommended the immediate discontinuation of the USAID purchase of gasoline from an ineligible (partly Iranian-owned) company, Iransenco. The USAID has discontinued the practice and will now exercise a preference to oil firms related to U.S. firms, subject to competitive requirements.

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BAKEL IRRIGATION PROJECT IN SENEGAL

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AUDIT OF THE
BAKEL IRRIGATION PROJECT
IN SENEGAL

PART I - INTRODUCTION

A. Background

The potential for irrigation development in Senegal has been estimated at 240,000 hectares which could yield as much as 1.4 million tons of rice per year. Thus, irrigated agriculture is one way to address Senegal's need for increased food production, jobs and income in rural areas.

In 1977, A.I.D. approved the Bakel Small Irrigation Perimeters Project (No. 685-0208) to develop irrigation in small farms of 30 to 50 hectares on 1900 hectares in 23 villages in the Bakel area. Perimeters, also called irrigation systems, consist of water pumps, connecting pipes, graded land and water canals. A.I.D. spent \$7.8 million during the project between 1977 and 1985.

The project's purpose was to expand replicable irrigation systems and to demonstrate their economic and technical feasibility. The project was only marginally successful after four extensions and a \$2 million cost overrun. Only 66 percent of the planned irrigation systems were constructed, and the quality of the systems was considered to be unacceptable. Farmer participation in management was very good but economic performance was marginal.

The project failed to expand replicable irrigation systems and to demonstrate the economic and technical feasibility of small-scale irrigation in Bakel. Accordingly, USAID/Senegal concluded that a number of design and operational improvements were necessary to establish a replicable prototype system.

In 1985, A.I.D. approved \$8.5 million for a follow-on project called Irrigation and Water Management I Project (No. 685-0280). The objective was to expand and improve village-level irrigated farming in Bakel, involving greater private sector participation that can be replicated throughout the River Basin. The Mission planned to remove technical and institutional obstacles to developing a prototype of the village-level irrigation farming system which could then be used for extensive replication throughout the region.

The follow-on project was to construct or rehabilitate irrigation systems on 1,200 hectares using improved construction standards. Also, the project would provide training in pump maintenance, irrigation techniques and farm management. Further, the project supported the Government of Senegal's new policy of divesting itself of certain operations in land development, pump sales and services, input supply, rice milling and cereals marketing. The project also intended to rehabilitate a demonstration farm and expand animal traction.

The host government's implementing agency is the Societe d'Aménagement et d'Exploitation des Terres du Delta, and the technical assistance team is from the Haiza Engineering Company.

The project budget was increased by \$500,000 in May 1988 and again by another \$500,000 in April 1989. As of March 16, 1989, about \$2.2 million of the total \$9.5 million had been expended. Also in April 1989, USAID/Senegal extended the project from 1989 to 1992.

B. Audit Objectives and Scope

The Office of the Regional Inspector General for Audit, Dakar, conducted a program results audit of the Irrigation and Water Management I Project (685-0260) in Senegal. Audit objectives were to (1) assess the adequacy of management's system for measuring project effectiveness, (2) determine the extent to which the project was achieving a desired level of program results, and (3) identify factors inhibiting satisfactory performance.

As the audit progressed, the objectives became even more sharply focused on the issues of replicating the prototype by private initiative, farmer profitability and private firm involvement, the quality of construction, and justifications for the project budget.

The audit was conducted at USAID/Senegal in Dakar, the offices of the host country's implementing agency in St. Louis, Senegal, and at the project site in the Bakel region. The auditors visited 12 villages with 20 A.I.D. financed irrigation systems, one village not involved with the project, the demonstration farm, the local bank, and private firms in the Bakel area.

Auditors interviewed A.I.D., host government, technical team personnel, village leaders and farmers, bank officials and

private businessmen. Since the current project was to eliminate constraints of the former project, audit work covered both projects. The auditor's reviewed and analyzed project papers, evaluation reports, project implementation reports, contracts, financial reports, and other relevant documents. The audit covered activities of both projects from inception through March 1989 including expenditures of about \$10 million.

The audit was conducted between October 1988 and April 1989 and was made in accordance with generally accepted government auditing standards.

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PART II - RESULTS OF AUDIT

The audit concluded that A.I.D. should focus on testing the validity of assumptions about the commercial viability and replicability of irrigated farming in Bakel. Steps are also needed to ensure quality construction of irrigation systems and to properly justify additions to the budget. These factors, along with delays in contracting, have adversely impacted achievement of stated goals and objectives.

Although behind schedule, the project had trained 80 farmers in pump operation and maintenance, 60 in irrigation layout construction and keeping farm records. Also, the project had approved construction or rehabilitation of 289 hectares of irrigation systems, and introduced technology including rice transplanters, multiple hopper seeders and rice hull carbonizers.

A. Findings and Recommendations

1. Focus Is Needed On Commercial Viability and Replication

The Bakel project was intended to demonstrate the commercial viability of irrigated farming under the theory that private industry would be attracted and would replicate commercially viable systems. Replication can make the project cost-beneficial and help achieve A.I.D. overall goals. The initial project, however, failed to determine whether irrigated farming was feasible. Due primarily to implementation delays, the follow-on project had also not determined if irrigated farming was commercially viable nor if private industry would replicate the systems financed by A.I.D. Since commercial viability and replicability were problematic, the Mission should further spell out plans for assessment and implementation.

Recommendation No. 1

We recommend that the Director, USAID/Senegal:

- a. specify the analyses and projections expected from the socio-economic monitoring program, and determine when, and how the commercial viability and replicability of A.I.D. financed irrigation systems will be assessed;
- b. specify the information to be reported in contractor and Mission progress reports regarding the progress towards commercial viability;
- c. specify responsibility for developing a strategy to attract the private sector including a plan for replicating commercially viable systems;
- d. specify that the evaluation, currently scheduled for fiscal year 1990, be external, and be tasked to definitively assess if a marketable prototype can be developed for replication by the private sector; and ensure that the evaluation is carried out on schedule; and
- e. terminate the project if the evaluation does not conclude that a marketable prototype can be developed for replication by the private sector.

Discussion

A.I.D. expected that farmers should ultimately be able to harvest up to seven tons of rice per hectare in Bakel. This

was in turn expected to result in profits that would attract private enterprise to take over the design and construction of irrigation systems, and supply and marketing functions previously performed by the host government.

If the pilot test proved the commercial viability of irrigated farming, A.I.D. believed that the project would result in a prototype for further expansion of irrigation by private initiative.

The follow-on project made little progress primarily because the technical team did not arrive in Senegal until 1988. A Mission project implementation report stated that the project was held together by a makeshift arrangement of personnel service contractors anticipating the selection and arrival of the long term contract team. Commenting on the draft report, the Mission clarified that this arrangement was not makeshift but was the approach planned in the project paper in order to permit limited system improvements and new construction and enable the host government to achieve development targets in the zone.

In the interim, USAID/Senegal concentrated on building irrigation systems, buying commodities and training farmers. By March 1989, \$2.2 million had been spent. Irrigation systems costing about \$500,000 had been or were being constructed on 289 hectares, and water pumps costing \$330,000 were purchased. To make up for delays, the Mission in April 1989 extended the project by two years.

Doubtful commercial viability and private sector participation - Past experiences have shown that irrigation projects in the Sahel, from Senegal through Mali and into Nigeria, have produced disappointing agricultural results and have been hampered by poor rains and inexperienced management. While generalizations such as this can be misleading, information obtained during the audit raised doubts about the efficiency of irrigated farming in the Bakel area and the potential for attracting private sector to the project.

-- Twenty-four percent of the irrigation systems built on 1,259 hectares during the first project were not being used and had been abandoned, according to a 1986 A.I.D. report. A.I.D. did not have information on use of systems constructed during the follow-on project nor if farmers were growing more than one crop per year as intended.

-- Private enterprise has not taken over construction of irrigation systems, either financed by A.I.D. or privately financed. Private enterprise had also not provided fertilizer supply, serviced water pumps, purchased crop surpluses nor milled crops. This failure was especially alarming since the host government had begun withdrawing from certain functions such as fertilizer supply.

-- The Director of the host country implementing agency said that the private sector will not be able to undertake marketing in Bakel until five or six years from now. Poor road conditions, and limited crop surpluses due to poor soil quality and undersized irrigation systems discourage merchants from coming to the Bakel region. These concerns were also expressed by the implementing agency chief in Bakel. Commenting on these statements, the Mission said that employees will sometimes be critical of proposed changes that are envisioned as having an unidentified impact on their careers.

-- Since our field work, the outbreak of hostilities between Mauritians and Senegalese which resulted in widespread death and looting in both countries and especially in the river area, had undoubtedly affected private sector participation in the Bakel area. The Mission added that Mauritanian shopkeepers left the area but private enterprises still exist in Bakel.

-- Farmers made initial deposits but failed to make subsequent annual deposits to saving accounts for repair and replacement of water pumps. During 1986 and 1987, the project purchased 18 pumps costing about \$330,000 but no annual deposits had been made as of March 1989. Farmers interviewed during the audit said they will worry about finding repair money when the pumps break down.

-- Project paper assumptions that farmers should average seven tons of rice per hectare in year 20 were not realistic, according to the project technical team economist. Similar conclusions were reached in a 1986 World Bank report which reported that A.I.D.'s estimates of rice surpluses and prospects for sustainability were overstated.

-- Farmers interviewed during the audit said they had not had significant crop surpluses. One farmer who planted rice on 15 hectares said his entire harvest amounted to a 100 kilo bag of rice per hectare, not even enough to feed his family. He blamed the low production on narrow canals which frequently broke down thereby diverting water from crop areas.

Focus needed on replicability - To be cost effective, commercially viable irrigation systems must be replicated by the private sector. The current project budget of \$9.5 million, when costed out on a per hectare basis, amounts to about \$8,000 per hectare, far too much to be justified by increased profits per hectare. According to the Mission, the cost of constructing irrigation systems including purchasing water pumps has averaged only about \$2,700 per hectare.

The extra amount per hectare is money spent for technical assistance. The payoff in spending this extra amount comes when the systems are proven to be viable and replicated by the private sector without further donor contributions. For example, the Mission calculated that the extra costs for technical assistance could be brought down to about \$200 additional per hectare if replication occurred on the 240,000 hectares in the Senegal River basin.

Mission officials believed that the technical expertise now in place will ensure that the audit team's concerns will be addressed. The technical team arrived in Senegal during 1988 and has developed a workplan and begun project implementation.

The technical team is responsible for developing a socio-economic monitoring system including a baseline survey. The Mission expects the system to obtain and analyze information on crop surpluses and farmer profitability, make projections, verify project paper assumptions, assess labor constraints, land and water issues, profitability and sustainability. There is to be a continuous collection and analysis of data from 50 case study farms.

A strategy, however, had not been prepared documenting: (a) analyses and projections expected from the socio-economic monitoring program, (b) target dates for the analyses, (c) how the analyses would serve to assess the commercial viability and replicability of A.I.D. financed irrigation systems, and (d) information to be reported in contractor and Mission progress reports regarding progress towards commercial viability such as crop surpluses and farmer profits.

Critical information not available - In the absence of the technical team, very little information was developed to assess whether the pilot test would result in a viable prototype. There was no data on how many irrigation systems

were operating and no idea whether those that were operating were profitable. Also, a baseline study critical to examining the viability of small-scale irrigation had not yet been conducted. As discussed above, little information had been gathered to assess obstacles towards private sector involvement.

Understandably, progress reports have not focused on measuring and assessing the commercial viability of irrigated farming and replicability of the prototype. The reports have dealt with administrative issues such as contracting delays, steps needed to get the project started, and construction of irrigation systems and commodity procurement. Only limited space was given to discussing progress and obstacles to private sector participation.

In our opinion, the Mission should specify information to be reported in progress reports such as the:

-- number of hectares constructed by cost and source of funding. This can help assess whether the private sector is constructing irrigation systems on its own initiative or whether the systems are still subsidized through donor contributions.

-- number of hectares used, crops per year and crop yields, compared to rainfed agriculture in the area. This can show if farmers consider the irrigation systems profitable and if they are planting multiple crops per year as intended.

-- amount of agricultural inputs supplied by the private sector, by type of input. This information is useful in determining if private industry is interested in participating in the project based on their perceptions of profitability.

-- crop surpluses generated by irrigated farming and the amount purchased by private industry. This information is key to commercial viability and replication.

Certain responsibilities for private sector strategy were unclear - Responsibility was unclear on who would establish, refine and implement a strategy to engage the private sector in certain project activities. Most importantly, as discussed above, no one was responsible for developing a strategy to engage the private sector in replicating, with private funds, commercially viable irrigation systems.

Additionally, although the contract included a short term marketing specialist responsible for recommending improvements to inputs and marketing, no individual or organization was charged to prepare a strategy on servicing pumps, providing fertilizers and gasoline, and milling and marketing crops. Most importantly, the responsibility to develop a strategy to encourage private sector replication had not been established.

Timing and composition of evaluation effort is important -
The Mission needed to establish a scope of work for the evaluation scheduled in fiscal year 1990. Based on the importance of replication and the lack of progress to date, the evaluation team should be tasked to assess if a marketable prototype can be developed for replication by the private sector. Plans in the project paper indicated that a combination of A.I.D., host government and private sector experts would be used to make an evaluation team. However, to render objective conclusions, we believe that an evaluation team external to A.I.D. should be commissioned to make these important assessments.

Ideally, the evaluation should be scheduled when sufficient information is available to test farmer profitability. For example, evaluators should have information on the results of at least one harvest subsequent to the baseline study to determine the cost benefits from irrigated farming.

In conclusion, the \$9.5 million investment from this follow-on project and the \$7.8 million spent on the initial project will be lost unless the private sector replicates the systems as envisioned by A.I.D. Consequently, A.I.D. should closely focus on commercial viability and replication. The irrigation systems and water pumps bought by A.I.D. were given free of charge to farmers under the project. To convince other farmers to replicate the systems with their own money, the results of this project must show sufficient income to make their investment worthwhile.

Management Comments

The Mission agreed with all parts of Recommendation No. 1 as revised in this report. Regarding the private sector, the Mission clarified that the host government is responsible for preparing a strategy in accordance with their new role of support to the farmers. The strategy will be completed by October 1989 and the host government, according to the Mission, agreed to have the contractor look at the overall

private sector in Bakel in addition to encouraging the private sector to participate in design and construction of irrigation systems.

The Mission believed that the evaluation should take place in fiscal year 1989 even though information will not be available at that time to test farmer profitability. In response to a draft recommendation, the Mission said it is unwise to task the evaluators to recommend project termination if replicability is not deemed feasible. Rather, the evaluators will assess whether a marketable prototype can be developed for replication by the private sector. Then, the Mission can decide, after reviewing the evaluation report, to recommend project termination if appropriate. A number of other suggestions made by the Mission were incorporated into the final report.

Office of Inspector General Comments

We frankly remain skeptical, based on our review of both projects and our assessment of current conditions, that this project is viable, or that a prototype can be developed that the private sector can afford to copy. However, we recognize that the current technical team has not been in place long enough to have made an impact, and that we, as auditors, do not have the technical expertise to make informed judgments as to agricultural potential. This is why the concept of a watershed evaluation has been recommended.

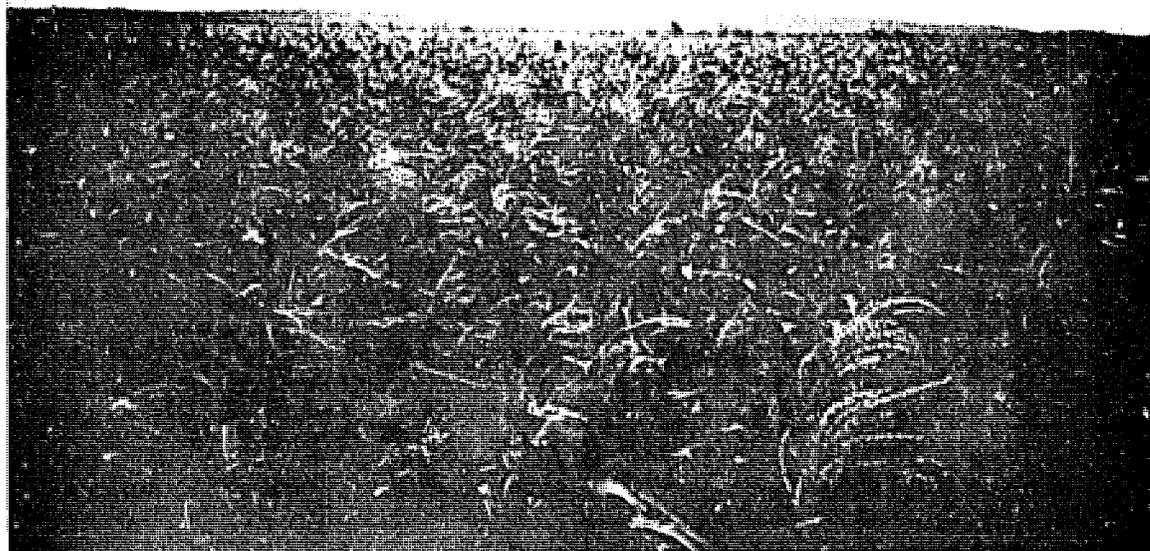
We have accepted the Mission's revisions to Recommendation No. 1 including the Mission's significant suggestion that USAID/Senegal instead of the evaluators, be responsible for recommending termination if replicability is deemed unfeasible. However, we feel strongly that the scope of work should commit the contractor evaluator to make a clear-cut assessment on the viability issue. An evaluation which hedges or skirts this key issue, or claims that data is still not sufficient to make such a call, (thirteen years and \$10 million after original project approval) ought to prompt the USAID, in our judgment, to immediately terminate this project.

All parts of the recommendation are resolved and can be closed when implemented. Corrective action has, according to the Mission, already been taken on parts (c) and (d). Part (c) can be closed when the Mission provides evidence that the host government has agreed to be responsible for preparing the private sector strategy. Part (d) can be

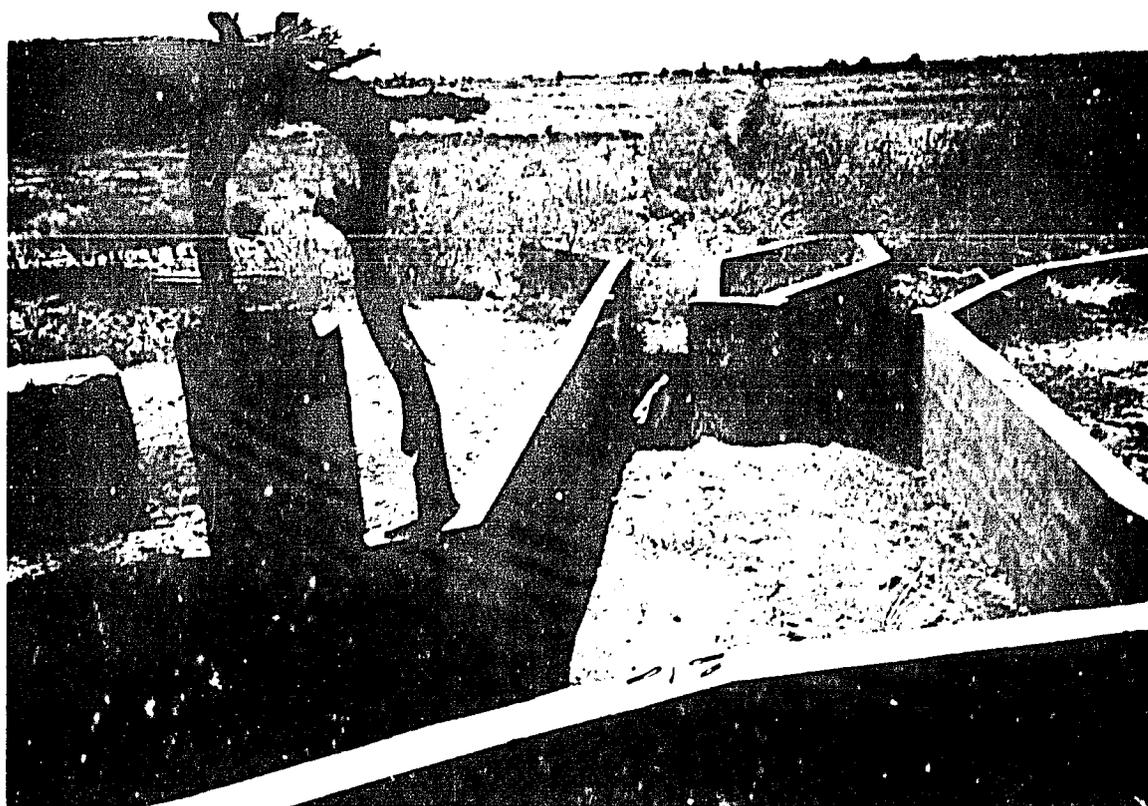
closed when the Mission completes the evaluation scope of work tasking the evaluators to specifically answer the question as to whether the project can develop a commercially viable prototype irrigation system that will be replicated by the private sector.



Abandoned Irrigation System
at Tuabo, Bakel



Farm Under Cultivation Using Irrigation
System at Collenghal-Tandia, Bakel



Irrigation System Currently Not In Use
at Moudery, Bakel

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2. Questionable Quality of Irrigation Systems

The project includes \$2.5 million to construct irrigation systems on 1,200 hectares and \$631,000 for water pumps for use on the systems. To correct for construction weaknesses in systems previously financed in Bakel, A.I.D. planned that a technical team would improve design and monitor construction. The technical team arrived in Senegal three years behind schedule so the Mission arranged for the interim technical assistance team to stay on to help the host government select, design and construct irrigation systems. Construction approved by the Mission on 298 hectares costing \$562,703, however, did not incorporate all of the proposed improvements. Additionally, the host government had not yet established design and construction criteria suitable to the Mission.

Recommendation No. 2

We recommend that the Director, USAID/Senegal:

- a. not fund additional systems until the host country establishes, to A.I.D.'s satisfaction, design and construction criteria and a strategy for private sector involvement in ensuring construction quality, and
- b. task the evaluation scheduled for 1990 to determine if irrigation systems constructed with project funds are of appropriate quality.

Discussion

The initial Bakel irrigation project ending in 1985 spent \$1.2 million to construct irrigation systems on 1,289 hectares. End of project reports and the follow-on project paper identified serious design and construction weaknesses in the systems already constructed.

For example, the project paper concluded that water distribution and application was wasteful. Delivery losses were estimated as high as 50 percent and application efficiencies as low as 50 percent, i.e., only one quarter of the water at the head of the system reached the crop roots. In a number of systems the canals were inadequately designed and constructed, and parcels were haphazardly leveled and controlled. Examples of waste included:

- water loss from improperly compacted canals;
- erosion of irrigation canals because farmers break through canal banks to divert water into individual parcels instead of using siphons;
- excessive use of water on row crops for flood irrigation, compared to the more cost efficient furrow system; and
- failure to reduce operating costs and labor demands because simple water and soil moisture measurement techniques were not used.

The weaknesses were found to result in waste and inefficiencies through excessive consumption and loss of water pumped from the Senegal river. Such inefficiencies raise the cost of pumping water thereby directly impacting on farmer profits, a major key to project sustainability and private sector participation.

To improve the quality of construction for the follow-on project, A.I.D. turned to an institution to provide technical assistance for the follow-on project. The assumption was that the technical team would be in Senegal in time to improve the design and monitor construction to correct for wasteful and inefficient features found in systems previously funded by A.I.D. Supplements to the 1985 project paper clarified that construction and water pumps would cost \$2,508,000 and \$631,000 respectively.

At the time of audit, construction had started on 298 hectares for which the Mission had agreed to finance up to \$562,703. As of April 1989, A.I.D. had disbursed \$392,671 covering 198 hectares but was delaying disbursement on 91 hectares until the host government made improvements to the quality of systems constructed.

The plan was upset by major delays in contracting for technical assistance. So the Mission arranged to extend the stay of an interim technical assistance team to help the host government select, design and construct irrigation systems. The project paper recognized that the interim assistance would not provide the full range of expertise and changes in the design and construction process. The interim team would permit limited system improvements pending the arrival of long-term technical assistance.

For the irrigation systems financed by the follow-on project, the interim team did not incorporate all of the

proposed improvements which had been identified in various project reports. According to the Mission, the interim team did initiate limited improvements including access roads and working closely with villagers to construct minor structures.

Referring to the newly constructed systems, a project irrigation specialist reported in 1987 that larger systems should be redesigned with less canal density, bigger plots, improved drainage and access roads, permanent irrigation structures, and solid canal systems. In addition, the specialist noted that smaller systems need to be stronger and better compacted, adding access roads, rebuilding all permanent irrigation structures using siphons or other special methods of admitting water to fields, lining portions of canals on light and low cohesion soil and in elevated canals.

A host government engineer assigned to the project in Bakel and a group leader of participating farmers cited the need for midsize irrigation systems using central pumping stations when irrigating over 100 hectares of land. They believed that midsize systems would be more economical and could more effectively provide water to all users.

The Mission believed that the statements made by the irrigation specialist, host government engineer and the group leader were speculative and not supported by data. Also, the Mission did not understand why the irrigation specialist wanted the cited improvements.

USAID officials acknowledged that further improvements were needed. For example, compacting still needed upgrading: the host government did not use specially designed compacting equipment and should have been compacted while dirt was moist instead of dry. Nonetheless, the officials believed that construction under the follow-on project was acceptable.

On April 14, 1989, the Mission agreed to finance irrigation systems on 95 additional hectares. A condition for A.I.D. financing of the construction was that the host government spell out construction criteria as part of the plans and specifications to be approved by USAID. The criteria will include site preparation, land leveling, access roads, drainage ways, canals, structures and diversion dikes. Specifications for concrete quality and soil compaction will also be required.

Further, the Mission said that the technical team will ensure that audit concerns about quality are addressed and,

as appropriate, corrected. This will include all identified inefficiencies caused by poor water management, poor compacting, erosion, and lack of measuring devices. Additionally, the Mission said that the private sector strategy will stress the need to improve the design and construction of irrigation systems to minimize cost and maximize benefits.

In our opinion, the Mission is tasking the contractor with several significant design tasks vital to project success, and we accordingly recommend that the upcoming evaluation assess this aspect in detail.

Management Comments

The Mission agreed with part (b) of Recommendation No. 2 but did not fully agree with part (a) and suggested that it be modified. Also, the Mission provided clarifications and technical corrections which have been incorporated into the report.

Office of Inspector General Comments

We modified part (a) of Recommendation No. 2 along the lines suggested by USAID/Senegal. Both parts of the recommendation are resolved and can be closed when the Mission (1) approves design and construction standards submitted by the host government, (2) approves the host government's strategy for private sector involvement in the quality of irrigation systems, and (3) tasks the evaluation to assess the quality of A.I.D. financed irrigation systems.

3. Budget Estimates Not Properly Documented

The Bakel project had serious delays and cost overruns. In response, USAID/Senegal added \$1 million and extended the project by two years until 1992. The justifications to add funds, however, did not sufficiently describe how the amounts of the overall increases were established nor on what basis amounts were allocated to individual line items. Also, the number of hectares on which to build irrigation systems was unclear and we estimate up to \$2.6 million may be needed to construct additional irrigation systems. The Mission needed to better document and clarify the basis for budget and financial management estimates and decisions.

Recommendation No. 3

We recommend that the Director, USAID/Senegal:

- a. document the justification for overall increases to the project budget and amounts allocated to individual line items, and
- b. clarify contradictions between project documents on the number of hectares on which irrigation systems are to be constructed.

Discussion

The Mission twice increased the project budget by \$500,000; once in 1988 and again in 1989. Each increase was authorized by a project paper supplement.

Audit examination of the justifications presented by USAID/Senegal found a lack of support and documentation. To provide for appropriate internal and budget controls, including controls over timely and accurate obligation of funds, the Mission needed to better document changes to the budget originally established in the approved project paper.

1988 justification - The audit found that the justification for the 1988 increase did not document how the amount of \$500,000 was determined, and the principal justification for the increase was erroneous. The project paper supplement narrative justified the increase based on decreased purchasing power due to a decline in the exchange rate for local currency costs.

This would make sense if additional expenditures were all in local currency. However, the entire \$500,000 was budgeted

for technical assistance, which is largely for salaries paid in dollars to American experts. Only a minor portion was for local currency costs, making that justification inappropriate. Most local currency costs of the project were for construction of irrigation systems but the project paper supplement actually decreased the construction budget by \$500,000.

In total, the 1988 project paper supplement added a total of \$2 million to the technical assistance budget without a word of how the amount was calculated (e.g. amount of staff years, salaries, support costs, etc.). The source of funds for the increase came from transferring \$500,000 from construction, \$1 million from inflation and contingency, and by increasing the project authorization from \$8.5 million to \$9 million.

1989 justification - The second budget increase of \$500,000 in April 1989 was better supported. For example, the justification cited a need for \$150,000 for three new studies on water run-off management, soil erosion and market roads, and \$80,000 for required audits. Secondly, it established additional line items for better tracking of expenditures.

However, the overall 1989 justification was faulty and support for individual line items was lacking. For example:

-- The justification recited the 25 percent drop in the dollar. This was the basis cited for the first budget increase.

-- The justification erroneously cited inflation increase as a basis for the budget increase. The rate of inflation has decreased in the United States since 1985 and has remained fairly constant in Senegal during the last three years.

-- The justification added \$300,000 to design and construction without citing how the amount was determined. This seems inconsistent with the 1988 decrease of \$500,000 from the construction line item.

-- The justification added \$150,000 to personal service contractors, thereby adding another three staff years. The only justification provided was that these personnel were needed to monitor and coordinate project activities for USAID/Senegal. The explanation did not justify why these services were needed in addition to services already planned in the project paper.

-- The justification cited a need to buy ten more water pumps while overall funds for pump procurement declined by \$279,000 from the original budget. No basis for the amount was provided in the justification.

-- The justification added \$140,000 to buy four more vehicles and spare parts but did not demonstrate a shortage of vehicles nor what they would be used for. The audit noted that A.I.D. was considering a request to assign two vehicles to host country officials not primarily involved in project operations. Consequently, assignment of vehicles to these officials appeared inappropriate as did the need for the two vehicles.

Conflicting information on amounts of construction - The project paper authorized construction of irrigation systems on up to 1,200 hectares of land. In contrast, the approved workplan permitted construction on up to 2,200 hectares between April 1989 and July 1992. In contradiction to both of these sources is the 2,000 hectares permitted by the contract for technical assistance.

The audit calculated that if irrigation systems were constructed covering the total 2,200 hectares authorized in the workplan, an additional \$2.6 million in additional funding would be needed not including the cost of water pumps.

Mission officials said they informed the host government that A.I.D. would only pay for construction irrigation systems on 1,200 hectares. Examination of correspondence between the host government, technical team and the Mission, however, found the issue is not clear and there is no indication of who would pay for any additional construction.

Management Comments

The Mission agreed with part (b) of Recommendation No. 3 but disagreed with part (a). To support its disagreement, the Mission said that the justification documentation for the overall increases are presented in the project paper supplements as well as the budget line item breakdowns showing where the overall increases were placed. The Mission, however, did not present arguments on specific assertions of the draft report which supported part (a) of the recommendation.

Office of Inspector General Comments

Part (a) of recommendation No. 3 is unresolved. We do not know the basis for Mission disagreement with part (a) since no comments were provided that disputed specific report assertions.

Recommendation 3 (b) is closed upon issuance of this report. The Mission has clarified contradictions between project documents on the number of hectares on which irrigation systems are to be rehabilitated and constructed under the project.

4. Gasoline Purchased From an Ineligible Firm

Agency rules require that commodities be bought from eligible firms. An otherwise eligible firm is ineligible when owned in part by citizens or organizations of a country not on the list of free world countries. USAID/Senegal purchased gasoline from a company, Iransen & Shell, partly owned by the National Iranian Oil Company, a non-free world country according to A.I.D. criteria. In some instances, the firm was the lowest bidder and in others, the Mission felt that the firm offered the most dependable source of gasoline in some areas of Senegal. The Mission acknowledged that a waiver should have been sought to buy from the firm. In total, A.I.D. spent at least \$500,000 of project and operating funds to buy gasoline from the ineligible firm since October 1988.

Recommendation No. 4

We recommend that the Director, USAID/Senegal, immediately discontinue the practice of buying gasoline from an ineligible firm.

Discussion

A.I.D. Handbook 1B restricts procurement of commodities to suppliers that meet A.I.D. nationality rules. To be eligible, firms must be owned by citizens or organizations of a free world country including the host country. AID/Washington may authorize exceptions to this policy.

Countries excluded from the free world list include Afganistan, Albania, Bulgaria, Cambodia, Cuba, Czechoslovakia, Estonia, German Democratic Republic, Hungary, Iran, Laos, Latvia, Libya, Lithuania, Mongolia, North Korea, People's Democratic Republic of Yemen, People's Republic of China, Poland, Romania, Syria, USSR and Viet Nam.

A.I.D. purchased gasoline for the Bakel irrigation project and for Mission use from Iransen & Shell. This company is partly owned by Iransenco which is a joint venture between the Government of Senegal and the National Iranian Oil Company.

Since Iran is excluded from the Free World list, the procurements were ineligible for A.I.D. financing. Moreover, since American oil companies like Texaco and Esso are widely represented throughout Senegal, the auditors believed that American oil companies should be given priority for A.I.D. procurements.

USAID/Senegal provided the following information on purchases of gasoline from Iransen & Shell during fiscal years 1988 and 1989. It is also probable that the Mission purchased additional amounts of gasoline from Iransen & Shell prior to October 1988.

USAID/Senegal Purchases of Gasoline
From Iransen & Shell
Fiscal Years 1988 and 1989
(as of April 1989)

<u>Purpose</u>	<u>Amount</u>
Bakel Irrigation Project	\$2,076
Gambia River Basin Project	2,395
Technology Transfer Project	6,325
Agricultural Support Project	7,153
Mission motorpool	11,602
Locust program	<u>491,480</u>
Total	<u>\$521,031</u>

Mission officials stated that the error occurred when a waiver was not sought in connection with the minimal ownership of Iransen & Shell by the National Iranian Oil Company.

The Mission cited several reasons to justify its purchases. First, it maintained that Iran's share of the company was actually only 25 percent and would decrease further to 3.75 percent in January 1989 following a recapitalization. Second, it stated that Esso is owned by a British firm and Mobil is linked to Mobil Oil France. Third, the two other gas stations located in the Bakel irrigation project area were not American. Fourth, the supply of gasoline at other companies' pumps in the Bakel area was not as reliable as Iransen & Shell. Fifth, for the locust control emergency program, the Mission selected Iransen & Shell on the basis of competition with Shell quoting the lowest price.

While citing these many justifications, the Mission on April 25, 1989 changed its position and, in line with the audit recommendation, discontinued purchasing gasoline from Iransen & Shell. The Mission also decided to exercise a preference to oil companies related to American firms, subject to competitive requirements.

Management Comments

The Mission emphasized that the source and origin of the crude oil was from Free World countries. Additionally, the Mission pointed out that the Iransenco has been dissolved and no longer exists. A new Shell Senegal corporation has been established with 96.3 percent ownership by the Shell Group; the remaining 3.7 percent is to be sold to the public. Consequently, the Mission concluded there is no ownership by the Government of Senegal or by the National Iranian Oil Company in Shell Senegal. A number of other clarifications were made by the Mission on the draft report statements. Based on the above, the Mission suggested we eliminate the recommendation and its related discussion.

Office of Inspector General Comments

We decided to maintain the discussion in the report and have incorporated technical changes provided by USAID/Senegal. Based on the Mission's discontinuance of purchases from subject firm, Recommendation No. 4 is closed upon report issuance.

Compliance and Internal Controls

Compliance

The audit disclosed that contrary to Agency regulations, USAID/Senegal failed to obtain a waiver for procuring gasoline from a company partly owned by a country not included in geographic code 935. With the exception of this instance, nothing came to the attention of the auditors which would indicate that items not tested were not in compliance. The compliance review was limited to the findings presented in this report.

Internal Controls

The Mission needed better controls to monitor and evaluate project success. Also, the Mission needed to establish better controls over construction standards for irrigation systems. Finally, controls were not sufficient to ensure that budget revisions were based on sound and proper analyses. The review of internal controls was limited to the issues discussed in this report.

Other Relevant Matters

Two recommendations contained in the report draft were deleted from the final report. In one case, the Mission provided good reasons why the proposed recommendation was not valid concerning an apparent conflict of interest. In the other case, the Mission correctly argued that our concerns about weak controls over license plates should be addressed to the Embassy. Accordingly, the Embassy has been informed about our concern that, for security reasons, better controls were needed over Embassy issued license plates.

MEMORANDUM

DATE: July 13, 1989

TO: Paul Armstrong, RIG/A/Dakar

FROM: S.J. Littlefield, Director,  USAID/Senegal

SUBJECT: Audit of the Bakel Irrigation Project In Senegal (685-0280)

Thank you for the draft report on subject. I have several comments to make. I have keyed my comments to the draft report.

SUMMARY

USAID/SENEGAL comments on the subject draft audit report are:

RECOMMENDATION NO. 1

USAID concurs with parts (a), and (b) and (c) as presented but does not fully concur with part (d) and suggested modifications for acceptability are presented.

RECOMMENDATION NO. 2

USAID concurs with parts (b) as presented but does not fully agree with part (a) and suggested modifications are presented.

RECOMMENDATION NO. 3

USAID does not concur.

RECOMMENDATION NO. 4

USAID does not concur.

RECOMMENDATION NO. 5

USAID does not concur.

RECOMMENDATION NO. 6

USAID does not concur.

The following numerous editorial and substantive corrections are offered for RIG consideration.

PART II - RESULTS OF AUDIT

Page 6

Para. 1: USAID disagrees with the audit conclusion "A.I.D. must focus on the possibility that irrigated farming in Bakel may not be commercially viable and replicable." The Project Paper sets the role of development of the Bakel area by stating: "What"? The Project will provide improved techniques of planning, construction, operation and management of existing, expanded and new systems of village irrigation. These outputs are expected to raise the economic performance of irrigation and establish a viable prototype for further expansion by private initiative. "How"? The contract with a U.S. firm will be the first implementation action. The TA advisors will assist SAED in (a) establishing criteria for selection of village systems to be improved or constructed under the project; (b) establishing design and construction standards for irrigation systems; and (c) contracting with private Senegalese firms for construction work."

Both the "What" and the "How" will come from the U.S. TA team which as acknowledged in the audit has been delayed in providing the required expertise. As of April, the TA team was making large strides to accomplish both the "How" and the "Why." Until the TA team working with SAED accomplishes some of its studies, designs, training, extension, etc. in relation to the farmers, it is truly too early to make a directed judgment call.

Para. 2: USAID agrees that the project in April had and was working on a total of 289 hectares of new irrigation systems, but with regard to USAID financing, only 198 hectares had been approved and reimbursed to SAED by USAID.

A. Findings and Recommendations

Page 8

Para. 3: Recommendation No. 1(d)

USAID does not agree entirely with Audit Recommendation No. 1(d). USAID does not believe it will be possible to time the evaluation to coincide with meaningful information from the socio-economic study because the baseline data only will be available next fall (1989). The evaluation planned for FY 1990 can use the baseline data but comparative data covering more than the

baseline is not going to be available until after at least next harvest season. We feel that there should be two harvest seasons to make a valid comparison. Furthermore, USAID believes that it would be unwise to task the evaluators to recommend project termination if replicability is not deemed feasible. It would be bad management to task an evaluator to possibly recommend project termination. The contractor will be charged with assessing whether a marketable prototype can be developed for replication by the private sector. The evaluation contractor should not be pressured to be less than candid on whether or not replication is feasible. The Mission will determine if the project should be terminated after review of the evaluation report.

USAID recommends that Recommendation No. 1(d) be changed as follows: "that the evaluation, currently scheduled for fiscal year 1990, be external and be tasked to assess if a marketable prototype can be developed for replication by the private sector".

Discussion

Page 9

Para. 1 beginning "If the pilot test...": USAID disagrees with this paragraph as written. Paraphrasing does not reflect the tone displayed in the PP: "The project will provide improved techniques of planning, construction, operation and management of existing, expanded and new systems of village irrigation. These outputs are expected to raise the economic performance of irrigation and establish a viable prototype for further expansion by private initiative."

Para. 2: USAID disagrees with the statement: "--by a makeshift arrangement of personnel service contractors --". The PP states on page 36: "The technical assistance for the initial year of the project will be provided by PSC's with staff of the Bakel Small Irrigation Perimeter Project, if they continue to be available. This assistance will permit limited system improvements and new construction pending the arrival of the contractor's personnel and enable SAED to achieve the development targets for the zone for the first two years." Therefore, the PSC's were planned and not makeshift and as shown by USAID reimbursement for the SAED activities during the PSC's presence, a valid way to move the project forward.

Para. 3: USAID disagrees with the number of hectares and cost presented. As shown by USAID financial records and project documentation, 198 (not 289) hectares at a reimbursement cost to USAID of about \$390,000 (not \$500,000) have been supported to date.

Page 10

Para. 2: USAID disagrees. Comparing results from one country to another without taking into account all factors affecting the country is misleading. This paragraph compares Senegal to Mali and Nigeria without taking into account the drought reducing effects of the year round availability of river water provided by the dam complex: Diama, at the mouth of the Senegal River, and Manantali at the upper reach of the Senegal River.

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Page 11

Para. 2: SAED has been tasked to restructure, and to get out of the construction and marketing operations of irrigated agriculture and to concentrate on extension. It is to the advantage of most current SAED employees to resist the change that restructuring and privatization will bring. Therefore, sometimes SAED employees will be critical of proposed changes that are envisioned as having an unidentified impact on their careers.

Para. 3: USAID does not agree. Who is the adviser that is analyzing the impacts of turmoil along the Senegal River and what basis is there for the statement that: "...virtually wiped out the private sector in the Bakel area"? Mauritanian shopkeepers left Bakel but there are still private sector enterprises in Bakel.

Page 12

Para. 1: USAID does not totally agree. SAED reports in 1986 and 1987 indicate that farmers made deposits into amortization accounts at CNCAS prior to receiving water pumps from SAED. These reports are available in the project files.

Para. 2: USAID does not agree entirely. The PP states that the average rice yield will increase to 7 tons over 20 years.

Para. 4: USAID does not agree entirely. Cost per hectare to date is about \$2,700 for construction and pumps. If technical assistance is included without consideration of replicability the cost is \$6,300 per hectare. Since this is a to-be-replicated project then the TA costs to implement the prototype should be spread through an estimated replicated hectare. Since there are an estimated 240,000 hectares in the Senegal River basin (Senegal), it should be easy to replicate 20 times the 1,200 hectares of the project. Therefore, 5% would be assessed to each replication resulting in an additional cost of less than \$200 per hectare, not the thousands as presented.

Page 13

Para. 3 beginning "The technical team...": USAID does not agree entirely. The project, SAED assisted by the TA team, has developed a work plan for the socio-economic study. The monitoring portion of the study will be achieved by a continuous collection and analysis of data from 50 case study farms. It includes off-farm income opportunities, stock raising and dryland agriculture as well as irrigated farming activities. The program is the responsibility of the TA team's sociologist-rural development specialist and his SAED counterparts.

Page 14

Para. 1: USAID does not agree with the underlined lead-in which states that responsibilities are unclear. It is clear that the Host Country contract calls for assistance from the private sector in design and construction of irrigation systems.

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- 5 -

Para. 2: USAID does not agree entirely. It is SAED's responsibility to prepare a private sector strategy in accordance with their new role of support to the farmers. Mission has received assurance from SAED that a comprehensive private sector strategy will be developed and submitted within the next 3 months. The SAED PDG has agreed to provide adequate technical support to SAED/Bakel to complete this task. USAID will monitor the task through regular correspondence (telexes, letters, etc.), joint reviews with SAED and the TA team and evaluations. The PP and the Host Country contract envisioned a baseline and monitoring socio-economic study. To assist the SAED's private sector strategy, the contract parties agreed to use some of the unspecified contract person months to look at the overall private sector at Bakel. This activity is in addition to the TA team's responsibility to assist SAED in utilizing the private sector in design and construction of irrigation perimeters.

Page 16

Para. 5: USAID agrees but note that the PIO/T for the evaluation is being reviewed within the Mission and in accordance with the PP an external evaluation is planned. The evaluator is tasked, inter alia, to specifically assess the potential for developing a commercially viable prototype irrigation system. This is already included in the SOW for the proposed evaluation in early FY 1990.

Page 17

Para. 1 beginning "In addition...": USAID does not agree entirely. To maximize the benefit of the evaluation to the furtherance of the project goal and objectives, the evaluation needs to be done early in FY 90. It should not be delayed until there is sufficient data and information available for comparison to test farmer profitability. If the evaluation is delayed until one harvest after the baseline data is established, it will create delays in identifying other potential areas of improvement to improve the output of the project.

Para. 2: The first phase of the last sentence "If the pilot test is successful" should be eliminated to make the sentence clearer.

Page 18

2. Questionable quality of irrigation systems

Para. 1: USAID does not agree entirely. The costs identified in the PP included, in addition to irrigation system construction and pump procurement, housing and office construction costs. Therefore, the construction line item included \$850,000 for housing and office construction and \$1.75 million for the construction of irrigation systems.

- 6 -

To ensure up to-date design and construction procedures, USAID and SAED planned that a technical assistance (TA) team would improve design and monitor construction. Since it was known that the TA team would not arrive for at least one year after start-up of the project, USAID planned that a PSC team would provide initial support to the COS design and construction (force account) teams. The PSC's were put in place but the TA team was delayed for a total of about 3 years, e.g. two years after scheduled arrival. During this three year period, the PSC's worked with the COS to improve design and construction as was anticipated by the PP design. As outlined in the project plan, the COS with the assistance of the PSCs began working with the farmers: helping select, design and monitor construction of irrigation schemes. The PSC's did not incorporate all of the proposed improvements identified in the various project reports and review of the preceding Bakel Small Perimeters Project.

As of April 1989, USAID had agreed and reimbursed SAED for design and construction of 198 hectares with a cost of about \$390,000 not \$500,000.

Potential Recommendation No. 2

Recommendation No. 2(a): USAID does not agree entirely. At the present time, USAID has agreed to reimburse SAED under a FAR arrangement for the construction of 91 hectares started in 1988 once the construction quality has been shown to be equivalent to the construction performed in 1986 and 1987 and also to fund an additional 50 hectares beginning in 1989. The 1989 construction is dependent on SAED accepting and incorporating design and construction quality criteria which were provided by USAID to SAED and the TA team in March 1989.

Comments: We request in light of the above that the recommendation be rewritten as follows: Continue not to fund systems that do not conform to USAID's satisfaction, to design and construction criteria and/or to recognized acceptable professional standards and not fund private sector design and construction until a strategy for private sector involvement in project activities has been developed by the host country to AID's satisfaction, for the Bakel area.

Page 19

Para. 5: USAID does not agree entirely. In the PP excessive use of water for flood irrigation compared to the more cost efficient furrow system was related to row crops, not to all crops.

Page 20

Para. 1: USAID does not agree entirely. The PP does not discuss the possibility of using what the Audit calls a double functional canal. The PP does state that each parcel is to be reviewed for drainage requirements and appropriate means taken to avoid any potential problem. As is evidenced when an experienced drainage engineer looks at the natural terrain of the constructed areas, there is not much of a drainage problem. The soils are light and free draining which reduces the need for constructed drainage.

Para. 2: USAID does not agree with the reference to excessive water use related to a lack of measuring devices. The PP in Annex 9.7 refers to water measurement to: (1) reduce operating costs and labor demands by: introducing basic, simple water and soil moisture measurement techniques; and (2) to respond to (1) by providing a suitable agro-engineering team to: install simple measurement devices and monitor water use and soil moisture in the systems, thereby improving the information on system performance. With the arrival of the TA, this team is now in place to perform the requirements of the PP.

Para. 4: This paragraph is incomplete. This paragraph is also inconsistent with other statements in the audit concerning the TA team such as paragraph 5 same page. The PP recognized that the PSCs would not provide the full range of expertise and changes in the design and construction process but that, "Technical assistance for the initial year of the project will be provided by PSCs. This assistance will permit limited system improvements and new construction pending the arrival of the aforementioned institutional TA team and enable SAED to achieve the development targets for the zone for the first 2 years." The accomplishments with the aid of the PSCs was well within the above sentence guidelines.

Para. 5: USAID does not agree entirely. The host country did not continue constructing irrigation systems to the old marginal design and construction standards. As planned in the PP various limited improvements were initiated by the PSCs, including design changes, construction quality improvement, access roads and working closely with villagers to construct minor structures.

Page 21

Para. 1: USAID does not agree entirely. The Mission did not agree in 1987 and 1988 to pay up to \$550,000 of the budgeted \$2.7 million for irrigation systems including, housing and office construction on 289 hectares. The Mission did agree in 1986 and 1987, to reimburse SAED about \$390,000 for 198 hectares. This reimbursement was in conformance with the PP in helping SAED meet its goals. Note: The \$2.7 million in this paragraph should be \$2.6 million as given in paragraph 1, page 18.

Para. 2: USAID does not agree entirely. All specialists are not experts on all subjects especially when there is no information to support rash statements. The PP, recognizing the need for appropriate data and information and instead of relying on speculation, presented a study plan to acquire the information to make informed decisions. Also, it is difficult to understand why systems need to be stronger and better compacted, access roads added, all permanent irrigation structures using siphons or other special methods of admitting water to fields rebuilt and portions of canals on light and low cohesion soil and in elevated canals lined if the systems are small and not another size. This is, of course, totally inconsistent with other audit comments in re cost per hectare. Cannot have cake and eat it too.

Para. 3: USAID does not agree. The report should name the host government engineers and participating farmers which are being quoted and especially the support for such statements. Again, the PP covers the NEED-TO-KNOW rationally with the requirement for studies to provide information so that a meaningful decision can be made and not one based on speculation.

Page 22

Para. 1: The word "wet" in the 8th line should be changed to "moist".

Para. 2: USAID does not agree. The mission has in fact specified improvements needed. Both SAED and the TA team have received USAID's design and construction criteria.

Page 23

Para 1.: USAID agrees but notes that the PP states that the TA team is responsible for significant design tasks as well as others, which are to be monitored and, if necessary, approved by USAID. All project activities will be subject to evaluation.

Page 24

3. Budget estimates not properly documented

Para. 2: Recommendation No. 3(a): USAID does not agree with Audit Recommendation No. 3(a). The justification documentation for the overall increases are presented in the Project Paper supplements as well as the budget line item breakdowns showing where the overall increases were placed.

Para. 3: Recommendation No. 3(b): The contradictions between project documents on the number of hectares on which irrigation systems are to be rehabilitated and constructed under the project have been clarified in a SAED telex received on 1 June 1989. As stated in the project grant agreement the rehabilitation and construction objectives are as follows:

- (a) Up to 400 hectares of village irrigation systems will be rehabilitated, and
- (b) Up to 800 hectares of village irrigation systems will be constructed.

USAID suggests that Recommendation No. 3 (a) be eliminated and No. 3 (b) be considered closed upon report issuance.

Page 28

Para. 2 and 3: The issue concerning conflict in hectarage between the PP and the Harza Workplan has been resolved by USAID, SAED and Harza. See USAID telex IWBH TLX 89 042 of 22 May 1989 and SAED telex No. 333 of 31 May 1989. Agreed upon hectarage is: 400 ha. for rehabilitation of existing systems and 800 ha. for new construction or expansion.

Page 29

Para. 1: After RIG stated their position on the hectareage question, telexes were exchanged between USAID and SAED reconfirming the 1,200 ha. as stated in the Grant Agreement.

4. Need To Correct An Apparent Conflict of Interest

Pages 30 - 34

We do not agree with the analysis for, nor with recommendation No 4. In our view there is no conflict of interest, real or apparent, in the contactual relationship between USAID/S and Multi Services International. Our views are based on judicial decisions and a series of Comptroller General decisions concerning similar factual situations.

Before discussing the alleged conflicts of interest issue, however, we point out some errors in facts which are relevant to the matter.

On page 30, first paragraph, third sentence of the draft report, it is stated that the institutional contractor at the same time was awarded other contracts to perform services on A.I.D. projects in Senegal. And on page 31, first full paragraph under "Discussion", it is stated that

"In addition, USAID/Senegal had several other contracts with Multi Services International to provide management services to A.I.D. projects in Senegal."

These statements were made in connection with the period of the MSI contract commencing on September 18, 1987, for services in assisting in operations of our Supply Management Office.

During the period September 18, 1987 to the present, we have had only one contract with MSI for management services. During that time, there was one other agreement, a small purchase order issued to MSI in the approximate amount of \$3,500.00 for the rental and rehabilitation of project houses in Bakel. The one management services contract provides for a bridge in implementation of the Agricultural Support Project until the Technical Assistance contractor assumes responsibility for the management services.

It is also relevant at this point to advise that the Mission has no planned procurement of services before September 17, 1989 (the date of completion of the MSI contract under discussion) of the type for which MSI might be a competitor.

The audit recommendation is predised on the view that MSI might have access to procurement information so as to gain an unfair advantage over other potential offerors of services. This is, of course, speculation only, not a statement of fact regarding an ongoing procurement.

The federal courts and the Comptroller General of the United States have examined factual situations of the type discussed in this recommendation in a series of cases and decisions. In these cases, the courts and the Comptroller General rejected an appearance of impropriety as a basis for enjoining the award of a government contract. The rule has been well established that in order to enjoin the award of a contract on the basis of a conflict of interest, the exclusion must be based on hard facts and not on suspicion or innuendo. Mere appearance, if any, is insufficient. Further, the mere fact of a prior or current contractual relationship with a firm does not in itself create an organizational conflict of interest for that firm.

We cite and summarize those cases below.

In *CACI Inc. - Federal v. United States*, 719 F. 2d 1567 (Fed. Cir. 1983), the United States Court of Appeals for the Federal Circuit reviewed a decision of the United States Claims Court in which the Claims Court had enjoined the award of a contract on grounds of conflict of interest. The Court of Appeals reversed the decision of the Claims Court. In the CACI case, a disappointed bidder sought to enjoin an award of a contract by the Department of Justice to a competitor that the disappointed bidder felt had a series of conflicts of interest. The decision of the Claims Court had been based principally on an "appearance of evil" and professional and social relationships of Justice Department personnel and contractor-awardee personnel. The Court of Appeals, in reversing the lower court, stated:

"We have carefully reviewed the record in this case. We conclude that the Claims Court ruling that the Department's award of the contract would be arbitrary, capricious, and an abuse of discretion because of the possibility and appearance of impropriety is not supported by the record and therefore is not a proper basis for enjoining award of the contract. The Claims Court based its inference of actual or potential wrong doing by the Department of Justice on suspicion and innuendo, not on hard facts."

In the case of *Space Engineering, Inc. V. United States*, U.S. Claims Court (1984) 32 CCF 72, 982, the Claims Court said the following:

"Finally, plaintiff argues that even if there were no actual prejudice or violation of statute or regulation, it should recover because of the 'appearance of impropriety' in this procurement. While this case was being briefed, the United States Court of Appeals for the Federal Circuit rejected appearance of impropriety as basis for enjoining the award of a government procurement. *CACI, Inc. - Federal V. United States*, 719 F. 2d 1567 (Fed. Cir. 1983)....

The receipt of the advisory letter in CACI does not undermine the requirement that a disappointed bidder present 'hard facts' if it is to receive relief.....

And continuing in its opinion, the Claims Court stated:

.....Inferences cannot be substituted for the 'clear and convincing proof' required."

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With respect to Comptroller General decisions we cite and quote from the following cases.

In an award protest case, entitled Associated Chemical and Environmental Services, et al., Comp. Gen. Decision No. B 228411.3 (.4) (.5) dated March 10, 1988, the following was stated:

"Furthermore, the mere fact of a prior or current contractual relationship with a firm does not in itself create an organizational conflict of interest for that firm's subsidiary."

In the award protest of Rosser, White, Hobbs, Davidson, McClellan, Kelley, Inc., Comp. Gen. Decision No. B 224199, dated December 24, 1986, it was stated:

"Rosser White maintains that it has presented the 'hard facts' called for under CACI, Inc. v. Federal V. United States, 719 F. 2d 1567 (Fed. Cir. 1983) to establish an actual conflict of interest which justifies overturning the award to AFA. We disagree. The court in CACI made clear that inferences of wrong doing based on 'suspicion or innuendo' are not a sufficient basis to overturn a contract award...."

And in the case of Imperial Schrade Corporation, Comp. Gen. Decision No. B-223527.2, dated March 6, 1987, the Comptroller General stated:

"There are several issues raised by Imperial Schrade's allegations about the retired officers. The first is whether the likelihood of a conflict of interest or impropriety concerning the procurement required exclusion of Phrobin in order to ensure the integrity of the procurement system. Such an exclusion must be based upon 'hard facts' and not mere 'suspicion or innuendo'."

The foregoing cases make it clear that even an appearance of a conflict of interest (which we deny is present in this matter) is not a basis for excluding a prospective offeror from competing for a contract. The Associated Chemical case makes it clear that the mere fact of a prior or current relationship with a firm does not in itself create an organizational conflict of interest. This being so, there is no apparent conflict of interest involved in the MSI contract under discussion.

Based on the foregoing decisions, we have no authority to bar MSI from any future contracts with A.I.D. until the current contract expires.

Even if A.I.D. were to try to do so, such action would amount to a debarment action. Debarment actions are subject to specific FAR and AIDAR procedures requiring notice, opportunity to reply and a right to a hearing. We cannot take such action under the cited law. Such unauthorized action could also render us liable to MSI for the costs of defense under the Equal Access to Justice Act.

We note further that USAID/US has no planned procurements coming up by September 17, 1989 of a type that MSI would be able to provide services. This further fact renders the recommended action moot.

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Regarding the question of any "hard facts" as to possible MSI access to information concerning USAID procurements, we note the following procurement action. In December 1988, USAID/S undertook a procurement action to obtain management services to manage Third country participant trainees in Senegal. MSI was one among the competitors for the contract. Following the completion of the evaluation of all proposals, MSI was not ranked within the competitive range and excluded from consideration for award for the contract. Considering this circumstance, there is no room to suspect that MSI had access to procurement data.

Therefore, we disagree that the MSI contract created an apparent conflict of interest and disagree that USAID/S should enjoin any contract awards to MSI. We suggest Recommendation 4(a) be eliminated.

With respect to recommendation 4(b), we wish to advise that a review for conflicts of interest is made routinely in every employment action and therefore we see no reason to make this Recommendation. We suggest Recommendation 4(b) be eliminated.

5. Gasoline Purchased From An Ineligible Country

Pages 35 - 38

The title, recommendation, and discussion for recommendation no. 5 are inaccurate in identifying the error, identifying the source and origin of the gasoline, and in identifying the nationality of the oil companies mentioned in the discussion.

The report misuses the terms, "source", "origin", and "nationality" which results in an erroneous analysis and recommendation. As written, the recommendation is impossible to implement.

As stated in AID Handbook 1B, Chapter 5, rules on source, origin and componentry relate only to commodities. Rules on nationality relate only to suppliers or contractors.

"Source" means the country from which a commodity is shipped to the cooperating country or the cooperating country if the commodity is located therein at the time of purchase.

The "origin" of a commodity is the country or area in which a commodity is mined, grown, or produced.

"Nationality", in the case of a corporation, is determined by the country of incorporation or by the citizenship of the owners of a corporation.

With respect to the source and origin of the gasoline, we provide the following information.

An oil company source advised us that the brute or crude oil imported into Senegal for the past four to five years has all originated in Nigeria, Gabon and Angola. Some small amounts of brute oil originate in Senegal. All the brute oil is then refined in a single Senegalese refinery. All brute oil must be refined in the Senegalese refinery.

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Following refining, the gasoline is purchased by the several oil companies operating in Senegal. All the companies obtain their gasoline from the single Senegalese refining source and retail the gasoline under the several different company names.

Under A.I.D. source and origin rules, as stated above, the "origin" of a commodity is the country or area in which a commodity is mined, grown or produced. A commodity is produced when through manufacturing, processing or substantial and major assembling of components a commercially recognized new commodity results that is substantially different in basic characteristics or in purpose or utility from its components. (Handbook 1B, Chapter 5B1, b). Under this definition, gasoline is a new product, different from the brute or crude oil from which it is refined, and as a result, its origin is the country of refinement. Thus, both the source and the origin of the gasoline sold by all oil companies in Senegal is, in fact, Senegal itself.

Even looking at the source and origin of the brute or crude oil, we find both the source and the origin of the brute to be Free World countries.

In light of the foregoing, it is inaccurate to state that purchases were made from non-Free World sources (pages 35, 36 and 37).

With respect to the nationality issue, we provide the following comments.

Transen Shell was a corporation organized under the laws of Senegal and thus it was a Senegalese firm. By being a corporation existing under Senegalese law, it met the initial definition of an eligible firm under A.I.D. Handbook I, Supplement B, Chapter 5. The pertinent citation is Chapter 5C1a which states:

"a. A supplier providing goods must fit one of the following categories to be eligible for AID financing:

(1).....

(2) A corporation or partnership organized under the laws of a country or area included in the authorized geographic code."

The particular error arose in that the A.I.D. nationality policy also makes ineligible an otherwise eligible firm where such a firm is owned in part by citizens or organizations of a country that is not included in A.I.D. Geographic Code 935. Chapter 5C1b (2) provides an exception to that policy by stating that M/AAA/SER may authorize the eligibility of organizations having minimal ownership by citizens or organizations of non-Code 935 countries.

A corporation has its nationality in the country where it is incorporated. This principle is followed in A.I.D. regulations and is based on both domestic United States law and customary international practice and law. In our earlier memorandum to your office on this matter, it was the foregoing points that we sought to make clear.

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The error occurred when a waiver was not sought in connection with the minimal ownership by the National Iranian Oil Company in Iransen Shell. This is a nationality issue rather than a source or origin problem.

With respect to statements concerning American oil companies, we sought to clarify the point that oil companies operating in Senegal and carrying American names were also Senegalese companies, owned in some unknown derivative part by American firms. At best, those firms might also be labelled as controlled foreign corporations under A.I.D regulations (See Chapter 5C1a (2) of Handbook 1B).

Further, we wanted to make clear that since there are no American oil firms in Senegal, the best that we could do is to provide a preference, subject to our rules for competition, to American related companies. The gasoline, however, is the same for all firms in Senegal, whether American related firms, or not so related.

One final point of information is that Iransenco has been dissolved and no longer exists. A new Shell Senegal corporation has been established with 96.3 ownership by the Shell Group. The remaining 3.7 percent is to be sold to the public. There is no ownership by the Government of Senegal or by the National Iranian Oil Company in Shell Senegal.

We suggest therefore that Recommendation 5 and its related discussion be eliminated.

6. Poor Control Over License plates on AID Financed Vehicles

Pages 39 - 41

The examples cited refer to Embassy issued license plates not related to AID financed vehicles. It is not surprising that AID could not help you identify a vehicle with 008 series plates since AID is not involved with issuance of 008 plates. A clear distinction must be made between diplomatic plates issued by the U.S. Embassy and AID financed vehicles' plates. The latter have numbers indistinguishable from plates on vehicles financed by other donors. I suggest you direct your concerns to the U.S. Embassy.

Regarding AID financed vehicles, we are unaware of any attempt made by the auditors to review our project vehicle files which account for all AID financed vehicles. Our files are at your disposal. Furthermore, you are also welcomed to review our procedures for retirement of AID financed vehicles and accompanying license plates. Since the recommendation and discussion as written is based on Embassy procedures over which I have no authority I suggest Recommendation 6 and related discussion be eliminated or modified after you complete this review.

Report Recommendations

Page

Recommendation No. 1

5

We recommend that the Director, USAID/Senegal:

- a. specify the analyses and projections expected from the socio-economic monitoring program, and determine when, and how the commercial viability and replicability of A.I.D. financed irrigation systems will be assessed;
- b. specify the information to be reported in contractor and Mission progress reports regarding the progress towards commercial viability;
- c. specify responsibility for developing a strategy to attract the private sector including a plan for replicating commercially viable systems;
- d. specify that the evaluation, currently scheduled for fiscal year 1990, be external, and be tasked to definitively assess if a marketable prototype can be developed for replication by the private sector; and ensure that the evaluation is carried out on schedule; and
- e. terminate the project if the evaluation does not conclude that a marketable prototype can be developed for replication by the private sector.

Recommendation No. 2

13

We recommend that the Director, USAID/Senegal:

- a. not fund additional systems until the host country establishes, to A.I.D.'s satisfaction, design and construction criteria and a strategy for private sector involvement in ensuring construction quality, and

Report Recommendations

- b. task the evaluation scheduled for 1990 to determine if irrigation systems constructed with project funds are of appropriate quality.

Recommendation No. 3

17

We recommend that the Director, USAID/Senegal:

- a. document the justification for overall increases to the project budget and amounts allocated to individual line items, and
- b. clarify contradictions between project documents on the number of hectares on which irrigation systems are to be constructed.

Recommendation No. 4

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We recommend that the Director, USAID/Senegal, immediately discontinue the practice of buying gasoline from an ineligible firm.

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