Harvard Institute for International Development
Rural Development Studies

Integrated Rural Development Project
Abyei, South Kordofan, Sudan

FINAL REPORT

ABYEI RURAL DEVELOPMENT PROJECT

10 DECEMBER 1981

Harvard Institute of International Development

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B. Niamir Report on Animal Husbandry Among the Ngok Dinka of the Sudan

C. Ackroyd Report on The Traditional Village Economy of Abyei

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D. Cole and Eaton Report on Water Program in Abyei

E. Donovan Report on Training Program in Abyei

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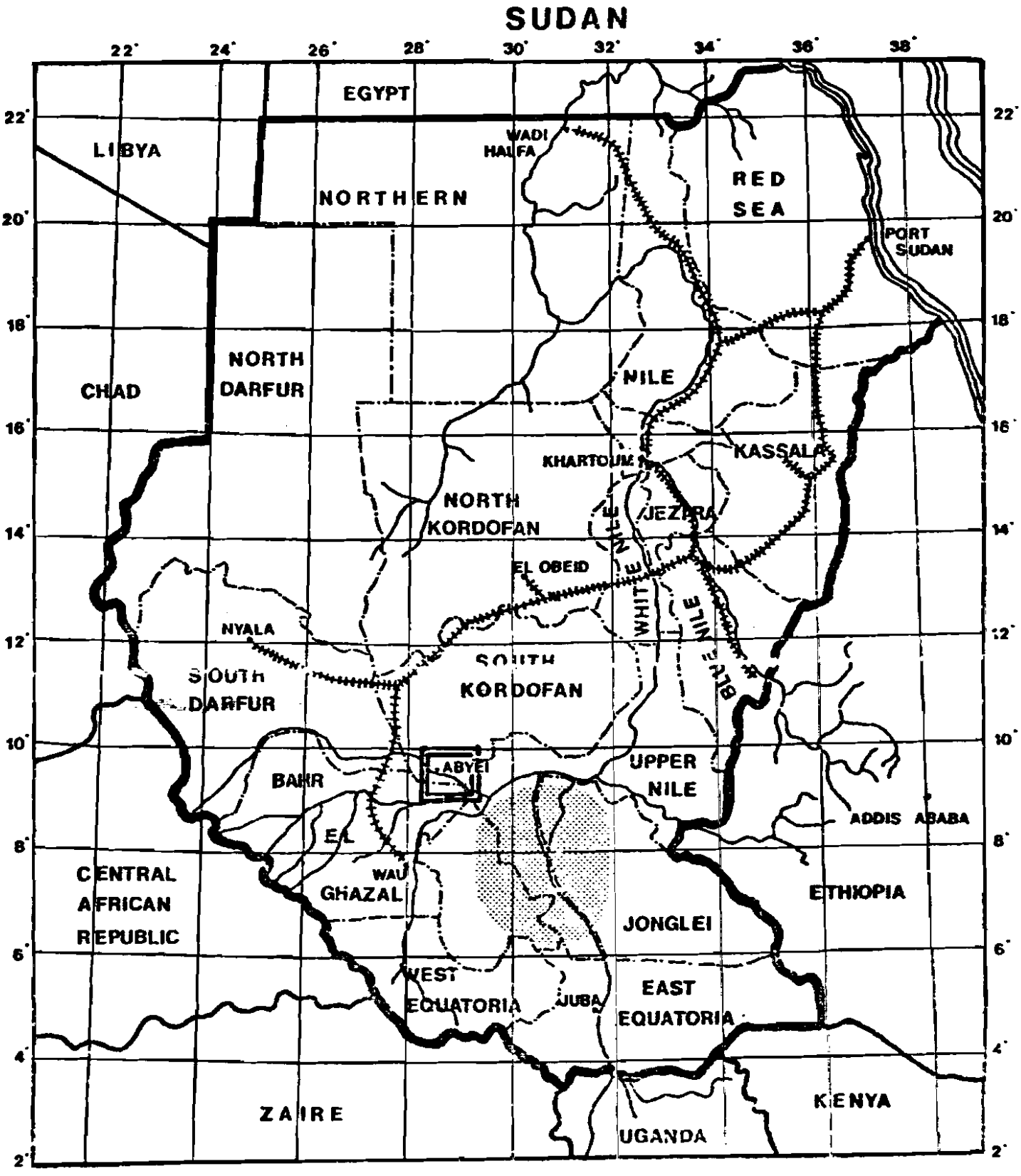
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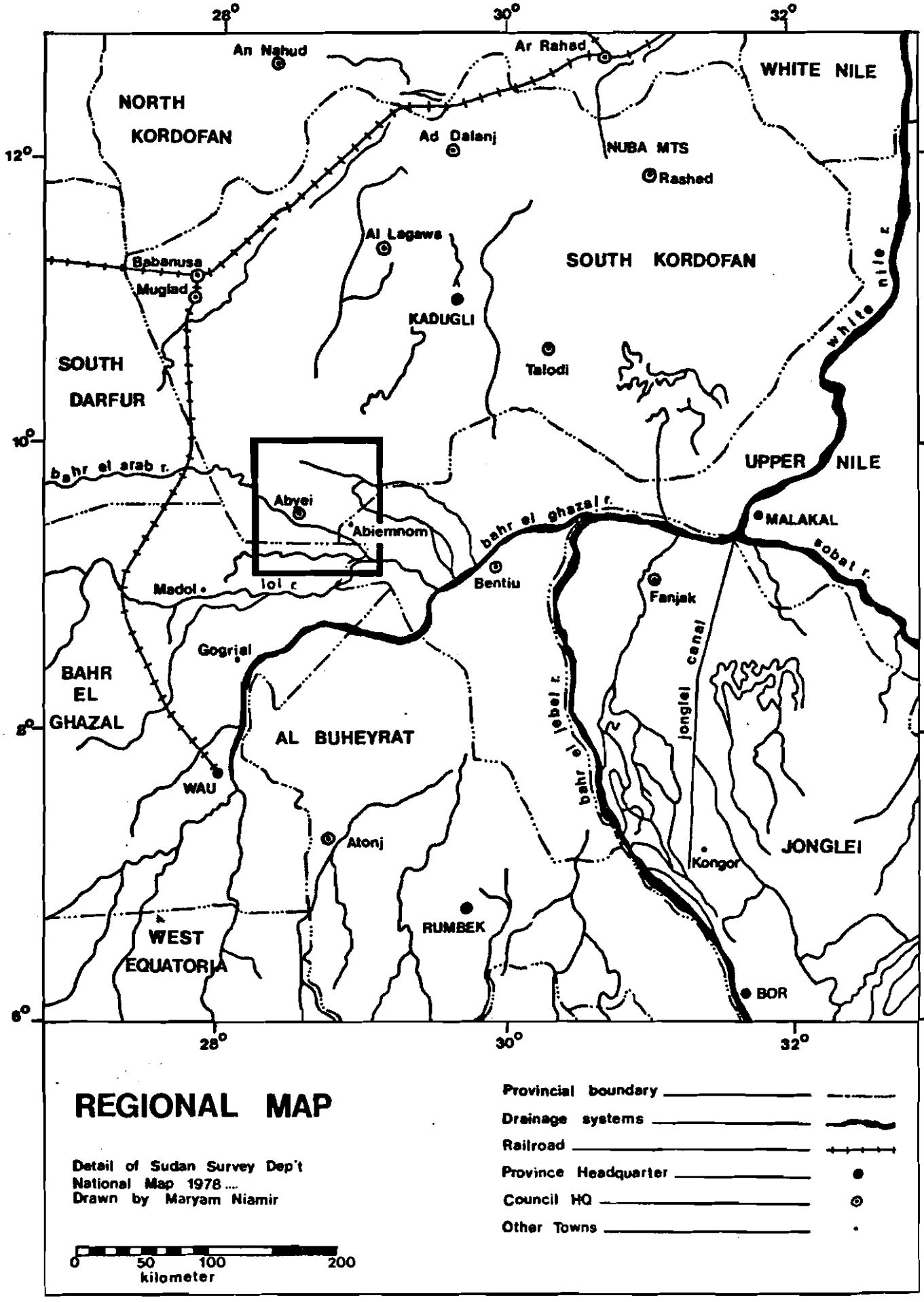
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Detail of Sudan Survey Dep't
National Map 1978....
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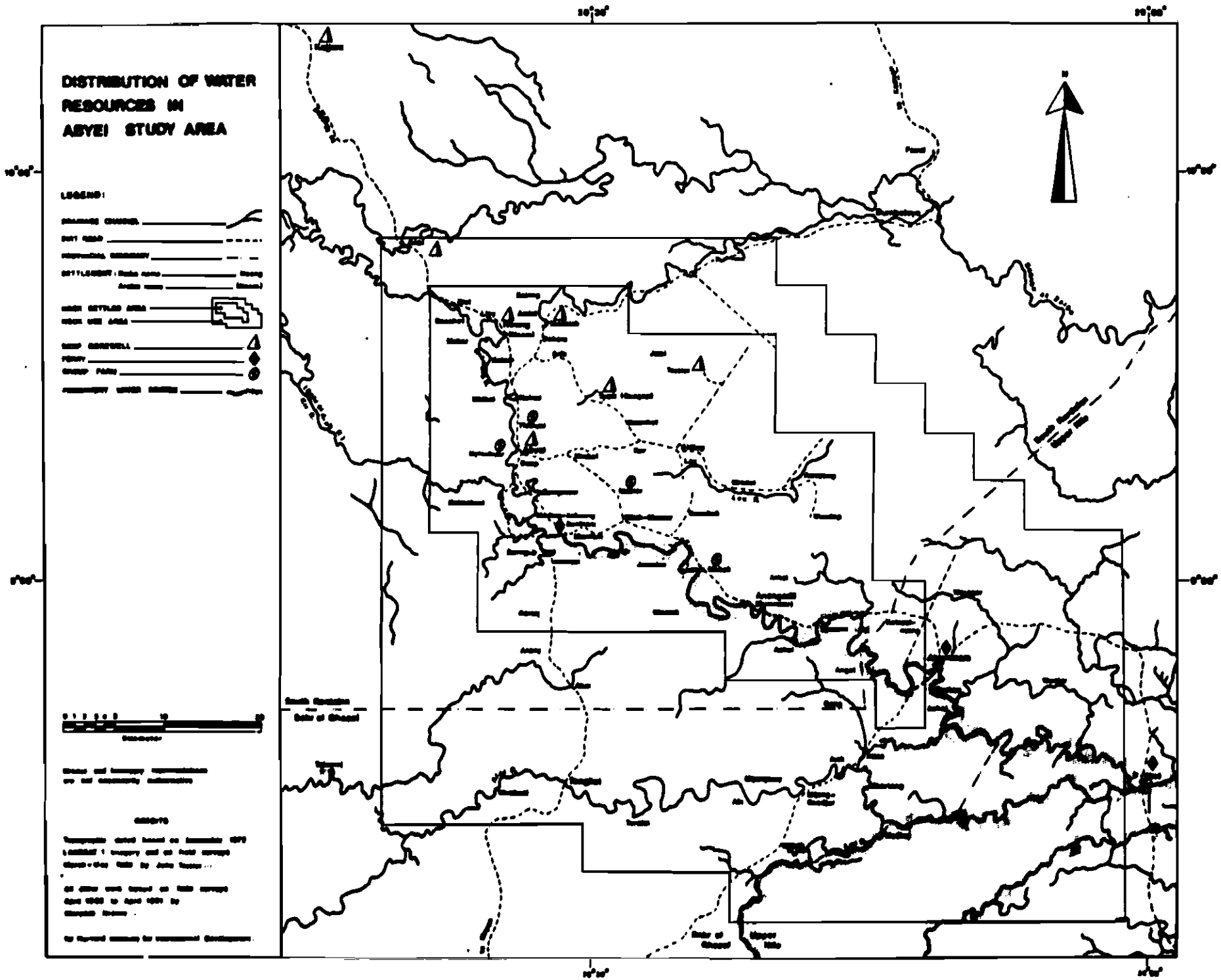

DISTRIBUTION OF WATER
RESOURCES IN
ASYEI STUDY AREA
LEGEND:

1. Introduction

The Abyei project was surrounded by controversy from its inception. Within the Sudan there were those who asked, "Why such special attention to one small area and to that particular small area?" In AID there was concern that it would be seen as a pacification project (shades of Vietnam) rather than a rural development project responding to the Congressional mandate. At Harvard, some asked: "Why get involved in such a difficult and risky undertaking?"

Subsequently there were those in the Sudan who felt strongly that the project was a sop to divert attention from fundamental political issues concerning the Abyei area, and that the project should not proceed until those political issues had been resolved. Others sought to divorce development activities from territorial disputes and to press ahead with a large scale effort. Harvard wanted to proceed more cautiously, trying to understand a complex and unknown environment before attempting to launch major development activities. AID wanted something tangible to be accomplished but without investing much of its financial and human resources into the venture.

Finally the controversies became overwhelming and the project has been at least set aside for awhile, if not permanently abandoned. At about the same time that a concensus was emerging at Harvard that the project really was producing some useful results, the pillars of support in the Sudan Government were being replaced and the local opposition around and in Abyei was becoming more aggressive both politically and physically. AID called in some evaluators who pronounced the project a failure and provided a good excuse for aborting the effort without moving on into an anticipated second phase that Harvard and at least some Sudanese had long been advocating.

Now in this final summing up, we try to address some key questions. Was all the struggle, the controversy and the physical hardship worthwhile? Was anything of significance accomplished? Was anything of importance learned? Could the project have been handled differently so that it would have been less controversial, less troubled and possibly have continued? Should it be reactivated in some new form and even extended to other areas?

This report with its many attachments suggests a positive answer to all these questions. Much was learned. The basis of information and infrastructure exists for an expanded project. On the other hand, many things could have been done differently, and should be done differently a second time.

But the question remains: "How much differently?" Should a more favorable location have been selected? Should the objectives have been more modest? Or should the resources employed have been much greater? Putting those same questions somewhat differently: Is Abyei an extreme, special case, or is it fairly typical of much of rural Africa and does it exemplify the environment in which basic problems must be solved? If the objectives are more modest or narrowly defined, is there a significantly increased probability of missing the synergy that seems necessary to achieve and sustain a self-perpetuating development process? And finally, if manifold resources are applied to only a few small geographic areas, will this deprive many similar areas of the potential benefits of development?

We tend to believe that, while Abyei is more difficult than many areas, it is far from unique; that development is the result of complex, mutually reinforcing combinations of a number of different activities; that the best set and level of activities for each area is not intuitively obvious; that development can be accelerated by some positive external stimuli, rather than just waiting for a trickle out process; and that the human, material and financial resources that can generate those stimuli are relatively scarce. Therefore they need to be economized.

The past decade has seen a vast increase in the flow of resources to rural areas to "meet the basic needs of the poorest of the poor." Most of these efforts have not been very successful. They have often done more to feed the benefactors than the beneficiaries. A more efficient way must be found to solve these rural development problems because the resources are not likely to continue to flow without more tangible evidence of positive accomplishment. Although the Abyei project was not carried forward very far into the tangible benefit phase, we hope that the experience of Abyei, as summed up in these reports, will at least contribute something to the learning process and to more successful development efforts in the future.

2. Objectives

The objectives of the Abyei project, as stated in the memorandum of understanding between the Government of Sudan and Harvard University, were:

> "To implement an experimental integrated rural development project in the Abyei area of South Kordofan Province for a period of two years to test the feasibility of
>
> 1. alternative techniques for meeting basic human needs, and
> 2. organizational arrangements for achieving participatory rural development.
>
> To apply the knowledge gained from this activity to the continuation of development efforts in the project area and the extension of such efforts to other parts of the Sudan."

At the time of signing the memorandum of understanding by the Undersecretary for National Planning on behalf of the Sudanese Government, the USAID Director in Khartoum informed AID/Washington of that fact and gave the following assessment:

> "Meetings with Senior GOS (Government of Sudan) officials reveal their deep satisfaction that project has come to fruition and field work about to begin. All parties agree Harvard faces a veritably complex task under harsh environmental conditions in an area fraught with political and cultural pitfalls, but there is little doubt that GOS places great import on the success of this undertaking."
> (Telex Khartoum 1324, March 30, 1978)

This passage indicates some of the unstated, short-run political objectives of the project. The Sudanese Government, or at least the President and some leading officials in the Sudanese Government, wanted to produce quickly some tangible evidence of their interest in the welfare of the troubled Abyei area. The U.S. Government wanted to activate

its first aid project since the resumption of cordial relations with Sudan and, in the process, to undertake a project that was of such import to key Sudanese officials.

3. Project Approach

The basic approach of the Abyei project, as reflected in the statement of objectives, was to try to find ways of addressing the problems of rural development that were both relevant and replicable; relevant in terms of the prevailing conditions and needs of the people in this particular part of Africa, and replicable given the financial and human resources that are likely to be available for addressing such problems more broadly across Africa in the foreseeable future. Thus there was an element of exploration - of searching for answers - and two dominant criteria for evaluating the paths to be explored - relevance and replicability.

This generalized approach was divisable into four sub-themes:

1) To combine action with research: to try-out various technologies or organizational arrangements, to study the results and thereby learn what made sense for the particular problem and setting.
2) To start small and add on, as needs and potentials become clearer.
3) To work closely and jointly with local people, to learn from them and prepare them to carry on the development activities once they were proven feasible.
4) To give the field team maximum responsibility and flexibility to adjust to changing circumstances within mutually agreed goals.

These several aspects of the overall approach merit brief comment, because they depart from standard practice in some respects and this caused some disagreements, or at least misunderstandings, with some of the parties involved in the project.

The action research approach, as developed in the United Kingdom, called for one group to do the action and another to do the research. This was intended to realize the benefits of specialization and protect the integerity of the research. Given the scale, the remoteness and the interconnectedness of project activities in Abyei, it did not seem practical to try to separate

these two functions completely. While some team members were mainly engaged in action programs and others mainly in research, all the action-oriented staff were expected to collect information and impressions on their activities and to maintain an evaluative, learning-by-doing perspective. Similarly the researchers were expected to participate in, and contribute ideas to, some of the action programs. This may have affected the purity of the research, but it also made it more relevant and brought the results into play more rapidly than if the two aspects had been totally separate.

The notion of starting small and adding on as things became clearer seemed eminently sensible in a setting where so little was known and there was a strong desire to get something started quickly. But this approach did not fit well with the imperatives of large bureaucratic organizations like AID and the Sudanese Government that have multi-billion dollar budgets and elaborate procedures for evaluating and approving expenditures in large chunks. Such procedures ideally call for considerable prior planning, detailed specification of the operating program, regular reporting on and monitoring of implementation, and extensive justification of any changes. The Abyei project, which requested from AID, and was granted, $175,000 in 1977, $495,000 in 1978, $710,000 in 1979 and $105,000 in 1980, along with lesser annual appropriations of Sudanese Pounds, was seen as a bothersome activity, always requesting dribs and drabs of funding that still needed to be reviewed and approved by project committees, assistant administrators and congressional committees. Either some more flexible way needs to be found for handling such projects or the "start small and add on" approach should be avoided despite its apparent relevance for a place like Abyei.

Working closely and jointly with the local people is also an approach that has both benefits and drawbacks. In the case of Abyei, it was possible to recruit seven senior project staff members and most of the semi-skilled and unskilled workers from the local Ngok Dinka population. This gave the project strong links into the local community, many channels for assessing community needs, interests and reactions, and assurance that the incomes and new skills generated by the project were directly benefiting

local inhabitants. But it also led to accusations of both intertribal and interclan favoritism as well as a steady stream of special requests based on family connections.

The fourth aspect of approach - giving the field team maximum responsibility and flexibility within agreed guidelines - was the only sensible option given the remoteness of the project and the severe limits on communication between Abyei, Khartoum and Cambridge. This was especially true during the first year of field activities when the project did not have its own radio frequencies and had to use the Chevron networks sparingly. Thereafter, the main weakness in the communication system was the link between Khartoum and Cambridge, due to frequent outages of telex and telephone lines. Mail exchanges required a minimum of one month in each direction and were impossible for six months of each year. Allowing the field team maximum discretion within broad quidelines has been a consistent practice of HIID for nearly 30 years. It works well when the project director and field staff are well qualified and when there is basic agreement on the approach of the project and mutual respect between the field team and the home office. These essential conditions did not exist during the first year of field operations under the Abyei project and performance suffered. The problem was addressed and corrected as quickly as possible through selection of a new project director. Thereafter the relationship between field staff and home office was ideal. There was mutual agreement on project objectives and approach. Semi-annual visits to the field by the home office coordinator provided opportunities to review these understandings and adjust programs. The project director in the field was free to revise schedules, add or delete activities within programs and inform the home office of his decisions and actions through regular monthly reports. The home office was mainly concerned with locating and sending to Abyei the appropriate personnel and supplies and technical suggestions that were requested from the field.

Clearly other approaches could have been used in Abyei - more careful advance planning, a large and separate research program, starting out on a much larger scale with more initial investment in housing, offices, shops, and equipment, more expatriate personnel to run the various programs, a

larger support network of vehicles, airplanes and supplies, and much more home office supervision and backstopping. All of these elements would have added significantly to the cost of carrying out the project. They would also have directed a much larger share of the project expenditures to expatriate personnel and suppliers of equipment whether they would have produced commensurate benefits in terms of the development of the Abyei area is an important question. And if the human and financial resources that are available and appropriate for the development of rural Africa are in fact scarce, as we believe they are, then devising approaches to the problem that economize on their use at least addresses the issue of replicability.

4. Chronology of Major Events in the History of the Abyei Project

1972 --Signing of the Addis Ababa accords ending the Civil War between Northern and Southern Sudan.

--Francis Mading Deng and Bona Malwal Ring, two Sudanese diplomats assigned to the Sudanese Mission to the U.N. in New York, visited Harvard University to explore Harvard's interest in working on development problems in Southern Sudan.

1976 May --Lester Gordon and Stephen Joseph of HIID visited Sudan and Abyei, at the invitation of the Sudanese Government, and proposed the outlines of a long term development project for Abyei.

1977 Jan. --A joint team organized by the Sudanese Ministry of Agriculture and HIID, led by Sadek Cabashi and David Cole, visited Abyei and prepared a collaborative plan for initiating studies and development activities in Abyei.

Mar. --Sadek Cabashi was killed in an automobile accident near Kadugli while working on the start-up activities of the Abyei project.

June --AID approved an initial operational program grant of $173,000 to fund HIID's involvement in the initial field studies around Abyei.

Sept/Oct. --At USAID/Sudan's request, HIID prepared a project paper detailing an accelerated impact project for Abyei.

Dec/Jan. --The Development Studies Research Center (DSRC), at University of Khartoum, and HIID carried out a baseline socio-economic and nutrition survey in the Abyei area.

1978 Mar. --Harvard University and the Sudanese Government signed a memorandum of understanding defining the objectives, the main activities and the broad responsibilities of the two parties for carrying out the Abyei project.

--AID approved a two-year grant of $495,000 to cover the first phase of a longer term development project for Abyei. The initial project team of 3 expatriate recruited by HIID and 6 Sudanese recruited by the Ministry of Agriculture proceeded to Kadugli and Abyei to start-up the project.

May --At meetings in Khartoum including representatives of the Ministry of Agriculture, the Provincial Governor of Southern Kordofan, the Ministry of Foreign Affairs, AID and HIID, the roles and responsibilities of the various agencies in the Abyei project were reviewed and redefined. The Provincial Government insisted upon the separation of its development activities in Abyei from those of the project.

Nov/Dec. --A management and consultant team from HIID visited the project, worked with the project staff on a detailed plan for the next year and submitted the plan to USAID/Sudan and the project review committee in Khartoum.

1979 Jan. --Proposed amendment to project grant agreement calling for additional funding and extension of the first phase of the project by 16 months to June 30, 1981, submitted by HIID to AID.

Mar. --New team leader, Richard Fuller recruited by HIID and sent to Abyei. Construction activities initiated. AID initial grant of local currency released (one year after start of field activities).

July --Review of Abyei project in AID/W by Assistant Administrator and other senior Africa Bureau staff.

Sept --AID approved project extension and additional grant of $702,000.

Oct/Dec. --Three new field team members and one consultant recruited by HIID and sent to Abyei to work on training, health, construction and water supply.

1980 Jan. --Evaluation of project by AID/Khartoum. Results inconclusive. No report submitted to AID/W or HIID.

Mar. --Research on livestock, village economy, demography and land use initiated.

May --Evaluation of project by team from Harvard. Reports positive about project accomplishments and value to HIID, critical of AID handling of project.

Aug. --USAID/Sudan advised HIID, there would be no further funding or extension of project beyond June, 1981.

Nov. --Visit to Abyei by HIID management and consulting team noted remarkable progress of project and solid base for continuation.

Dec. --Brief visit by USAID Director and AID/W Sudan desk officer to project.

1981

Jan/Feb. --Evaluation of project for AID by team from Development Alternatives Inc. concluded that project not worth continuation.

Feb. --Based on DAI recommendation USAID again decided to terminate project on June 30, 1981.

Apr. --HIID field team left Abyei and returned to U.S. to complete project reports.

Dec. --Final reports submitted to Sudan Government and AID by HIID.

5. Constraints and Problems

There were a number of major constraints confronting the Abyei project from its inception and also several critical problems that arose during the process of implementation. Some of the constraints were largely removed in the brief period of three years that the project was in operation; others continued to plague the project and contributed to its premature termination.

Undoubtedly the most severe constraint was the continuing political or territorial conflict between the Ngok Dinka and Missiriya Humr tribes. The Nilotic Ngok tribe and the Arabic Missiriya have shared and fought over common and adjacent grazing areas and water points for several hundred years. The tensions between them were exacerbated by the 15 year civil war, from 1956 to 1972, and only partly resolved by the Addis accords. In fact the critical issue, of whether the Abyei area, somehow defined, should remain a part of the North or be shifted to the South, was left unresolved at Addis and it has continued to fester ever since. Fighting erupted between the two tribes in May-June 1977, as the project was just getting underway, and resulted in over 150 deaths. It resumed again at the end of the 1977 rainy season when the socio-economic survey team was en route to the Abyei area. These two bloody clashes led to an edict by the Provincial Commissioner that the Missiriya people and their cattle must stay outside of the Abyei area. This pattern held through the dry seasons of 1978, 1979 and 1980, but during the rainy season of late 1980, Ngok cattle herds and villages along the Northern perimeter of the Ngok area were attacked with increasing frequency so that by early 1981 the Ngok had abandoned all their settlements to the North of Abyei Town. A special Presidential Commission visited Abyei in March 1981 and made proposals for reducing the tensions, but these seem unlikely to have a lasting effect unless the provincial authorities can establish a strong presence and apply restraint in an even handed way.

It had been hoped that the Abyei project would be able to work with both the Ngok and the Missiriya, when they were in the Abyei area, and that development, or the prospect of development would help to bring peace to the area. It had been suggested by officials of the Ministry of Agriculture that the project should cover the whole western district of South Kordofan province

and thus serve both the Misseriya and Ngok peoples, but this proposal was opposed by the Ngok as likely to dilute the effort in their more remote and less populated area. The Ngok wanted their area to be given special, semi-autonomous status, to which they would welcome the Missiriya as seasonal visitors, but not permanent settlers. The Missiriya, for their part, wanted both seasonal grazing rights and permanent settlements in the Abyei area and a Northern security force to assure their access. The Ngok saw the Abyei project as a direct undertaking of the Central Government to make good on the President's promise of a special effort for Abyei. The Missiriya saw the project as giving favored treatment to the Ngok, assisting and encouraging their independent hegemony, while providing no benefits to the Missiriya people. A similar rural development project in a nearby Missiriya area around El Fuda was approved by the World Bank but never implemented. Whether any of these projects, if implemented, or implemented differently, would have had any impact on the intertribal conflict, is an unresolved question; but that the tribal conflict had an adverse impact on the Abyei project is abundantly clear. Whether it should have been recognized at the outset as not just a serious, but an insurmountable obstacle to the success of the project is still as much a matter of debate as is the question whether the recent fighting was a sufficient reason for terminating AID support of the project.

The second major constraint for the Project was the dearth of information on the basic conditions of the Abyei area. There were several recent studies of the social patterns, but no information on the economic, demographic or environmental parameters that might give some basis for designing appropriate development activities. The original project plan of January 1977 called for a series of studies on soils, land use, water resources, population and socio-economic conditions to be carried out over the following months. All but the socio-economic study were to be done by the Ministry of Agriculture, but they were allowed to lapse after the death of Sadek Cabashi, the Ministry's project coordinator. The socio-economic survey was carried out by the Development Studies Research Center of the University of Khartoum with technical assistance and financial support from HIID, in December 1977 and January 1978, but it was disrupted to some extent by both political disagreements over the project at the University and tribal fighting in the Abyei area.

A parallel nutrition survey, conducted by a joint team from HIID and the Sudanese Ministry of Health, tried to cover too many questions in too little time in an unfamiliar culture and produced results that were not considered reliable. Both of these surveys provided some insights into the socio-economic conditions of Abyei, but they contained conflicting information on some points and generally raised more questions than they answered. Also these surveys were carried out during the dry season and they contained minimal information on either the farming or the livestock rearing practices, which were the two most important facets of economic life. The operational phase of the project started in 1978 despite these information deficiencies which were ultimately overcome by studies carried out under the project,as described in the following section on project accomplishments, and as attested to by the annexes of this report.

The third major constraint on any development activity in Abyei is the natural environment itself. The climate combines continuous high temperatures, six months of rain and six months of drought and gale-force winds in the early rainy season. The terrain of flat alluvial clay plains is too hard to work during the dry season, too soft to traverse in the rains and prone to waterlogging in many areas. The troublesome insect and animal species consist of anophiles mosquitos, biting flies, scorpions and poisonous snakes that make life miserable for humans; termites, Quelea birds and monkeys that eat up crops and wood structures; occasional hyenas and other predatory animals that attack livestock. There is no rock or natural gravel within 200 kilometers of Abyei and the clay soil is not well suited to making brick or other types of building blocks. These and other elements of the natural environment are discussed at length in the annexed reports along with descriptions of traditional adaptations to the constraints and the results of experimental efforts to relax some of them.

Turning to the problems that arose during implementation of the project, the most troublesome was the persistent lag in approval and release of operating funds in the face of severe seasonal constraints on logistics and field activities. The dry season in Abyei from November to May is the season for moving supplies, building buildings, drilling wells and clearing land. The wet season, from May to November, is the season for farming. If funds were available in a timely fashion, it was possible to order supplies in advance, deliver them

to Sudan and to Abyei by the least costly means and have them on hand for the start up of activities at the beginning of the appropriate season. If funds were delayed, it meant either a rush operation, with costly air shipments, crises over missing or incorrect components and pressurized field work, or postponing the activity until the next year. Given the very limited time period for this first phase of the project, we generally opted for going ahead on a crash basis, but this added significantly to the cost of the project and the stress on project personnel while adversely affecting output.

The following table illustrates the lag between funding requests and approvals and shows the project activities that had to await funding and were thus either rushed or postponed, which often got them out of phase with other facets of the project. (See Table 1)

Some, who know the AID procedures, may conclude from the table that the approvals,at least of the dollar portions, were remarkably quick by normal AID standards, since they averaged about six months between initial request and final approval. The local currency delays, of 15 months between initial request and actual release of funds, were more extreme. Nevertheless, both sets of delays posed severe problems, given the seasonal demands of the project. If there is little prospect of speeding up the approval process, then other possible solutions for carrying out this type of project are to provide more funding up front, some of which is not committed to specific programs, or to operate on a more relaxed time schedule that allows for slippage by as much as a year.

The second major problem that plagued the project from its inception to its termination was the divergence of objectives and expectations of the different major parties involved in the project. In part this derived from unrealistic expectations on the part of everybody about the speed with which things could be accomplished in Abyei. This problem was compounded by the funding delays, but, even if the money had been available in a timely fashion, more time was needed to comprehend and begin to overcome the environmental, political, social and human resource constraints of this remote area. A five-year period of investigation, testing, building and training would have made much more sense.

TABLE 1

Timing of Funding Requests and Approvals and Consequences of Delays

Nature of Funding Requests	Amounts	Time of Request	Personnel and Supplies Ready to Go	Time of Funding Approval	Time of Actual Release of LS[a]	Consequences of Delayed Funding
1. HIID Team to prepare preliminary plan for Abyei jointly with Sudanese team	$19,000	Dec '76	Jan '77	not approved		HIID paid the costs
2. Field Studies by HIID and U. of Khartoum & preparation of detailed project paper.	$173,000	Feb '77	Mar '77	June '77		Studies postponed 9 mos. til next dry season. Some key personnel shifts. Project delayed 6 mos. & project paper prepared w/o results of field studies
3. First phase of field operations for initial 2 yrs.	$495,000	Oct '77	Jan '78	Mar '78		Field team arrived Abyei in April; end of dry season. w/o supplies or time to prepare facilities before May rains.
4. Local currency from AID for construction, local purchases &field operations	ŁS225,000	Jan '78	Mar '78	Jan '79	Mar '79	Delayed start of '79 dry season construction program til mid-season. Forced curtailment of other field activities.
5. Extension for 16 mos. & expansion of first phase field operations and studies	$702,000	Jan '79	Mar '78	Sept '79		Delayed procurement of airboat & farming implements resulting in expensive & unsuccessful effort to deliver during rainy season.
6. Local currency for field operations from PL480 funds	ŁS300,000	Jan '80	Jan '80	Mar '81	Apr '81	Severly restricted construction program & all field operations in 1980-1981 dry season.
7. Continuation of well drilling program	$105,000	Jul '80	Sept '80	Dec '80		Supplies had to be shipped by air rather than by sea Restrictions on air shipment of hazardous cargo prevented completion of several wells.

Note a: HIID went ahead with commitments and expenditures of dollar funds on the basis of funding approval without waiting for actual release of funds by AID. This was not possible with the local currency funding in ŁS (Sudanese Pounds) which had to await actual provision of funds by AID or the Sudanese Government.

But the more serious problem was the divergence of objectives. These were recognized early on - they were discussed at some length in a project review meeting, attended by AID representatives, in Cambridge, in June 1978; and they were discussed again in the David Mayburry-Lewis evaluation report of September 1980. Key project documents such as the Preliminary Plan of January 1977, the Project Paper of October 1977, the Memorandum of Understanding of March 1978, and the Proposed Amendment of the Project Agreement of January 1979 sought to define an agreed set of objectives and approaches to those objectives. Each of those documents was reviewed by the principle interested parties before it was approved. But in nearly every case once the document was approved some party would voice objections to it.

The Preliminary Plan of January 1977 was approved by the Minister of State for Agriculture and representatives of other relevant Ministries as an action plan for starting up the Abyei project. Within two months two officials of the Ministry of Agriculture wrote a critique of the Preliminary Plan saying it was too modest an effort, and that it should be focused on the whole Western District of South Kordofan (including the Missiriya areas) not just Abyei.

The Project Paper and the related Memorandum of Understanding were approved in January and March of 1978 by principal representatives of AID and the Sudanese Government as the basis for the first phase of the project. In May 1978, the Provincial Commissioner of South Kordofan, who had been supplied all the documents and fully briefed on the project two months earlier, threatened to prohibit the project from operating in his province, and insisted on separating provincial activities from project activities in Abyei. This was in response to requests from Abyei and Khartoum for closer coordination of project and provincial efforts. Subsequently a form of informal coordination was worked out in Abyei but the provincial and district officials in Kadugli and El Fula never did give much support or encouragement for the project, apparently because they saw it as an activity of the Central Government that was not under their control, but was being responsive to the demands of the Ngok people in Abyei and their spokesmen in Khartoum.

The proposed Amendment of the Grant Agreement was first drafted by the joint Sudanese-American project team in Abyei in December 1978. It was

reviewed and approved in Khartoum by USAID and the Sudanese Government from January to March, 1979, and by the AID project committee in March, 1979. The amendment provided for an extension of the first phase by 16 months, expansion of field staff, field operations and field studies leading to preparation of a plan for the second phase of the project to begin in 1981. Two months later, as the AID Administrator for Africa was about to sign off on the proposed amendment, Francis Deng, the Minister of State for Foreign Affairs, and the chief spokesman for Abyei in the councils of the Sudanese Government, and the key person for whom the political officials in the U.S. Government were supporting the Abyei project in the first place, visited Washington and raised basic questions about the scope, scale and speed of the project. He advocated acceleration and expansion far beyond what was included in the proposed amendment. These criticisms led AID/Washington to ask USAID/Khartoum to make enquiries at the highest level as to whether the Sudanese Government wanted the project to continue. Strong assurances to that effect were received in August and the amendment was approved in September, 1979.

Over the next year , as the project was making progress on many fronts within the framework of the defined program, support for it seemed to wither. Francis Deng moved from the Ministry of Foreign Affairs in Khartoum to the Embassy in Ottawa, thus removing both a supporter and a critic of the project, but perhaps most importantly an object of American political solicitude. The USAID project officer undertook an evaluation of the project in January 1979 and wrote a critical report that was never circulated. The Minister of Agriculture who had been a consistent strong supporter of the project on its defined scale, was appointed Governor of the Northern Region of Sudan. A new Provincial Commissioner for South Kordofan, after saying he would give full support to the project, proved incapable of even maintaining law and order in the area. The local elite in Abyei became caught up in the issue of political realignment of Abyei from North to South and felt that resolution of that issue was either more important than, or a precondition to, successful development efforts. Thus the concensus of disparate interests that had intersected sufficiently to launch the Abyei project, and had withstood the disenchantment of one or two parties at various points along the way, finally crumbled as key supporters turned away, and the only remaining advocates were the project staff and some of the local inhabitants. This inability to build a concensus of support for the project was a critical failure that will be discussed further in Section 7.

6. Accomplishments

The basic purposes of this first phase of the Abyei project were to carry out some experimental rural development activities and, through such experiments and related studies, to learn what made sense for the future development of Abyei and similar areas. Detailed descriptions of what was done and what was learned in each of the major spheres of project activity are contained in the annexed reports. These cover agriculture, livestock, water supply, construction, training and support services, health, local organization and land use. In this summary report we will highlight the more significant accomplishments and indicate where in the annexes they are discussed in detail.

a. Physical Infrastructure

In the three years from March, 1978 through March, 1981, the project succeeded in building 26 buildings, twelve of traditional style and fourteen modern, at a total cost of LS104,000 or about $125,000. (See Table 2)

As of the end of March, 1981, the administration building was still uncompleted and grain storage buildings not started due to shortage of funds to buy construction materials.

All of the construction activities were carried out with local workers and supervisors who were trained on the job by the construction specialist. No outside contractors were used. Most buildings were made out of brick which was produced locally by the project. Wood and metal window and door frames and roof trusses were fabricated in the carpentry and metal working shops. All these factors helped to keep costs low.

In addition to this construction activity, the project completed the drilling of one well which was operating successfully with a Robbins and Myers hand pump when the HIID team left Abyei in early April, 1981. A number of other wells had been drilled at different locations, and had demonstrated the availability of suitable ground water, but none had been successfully completed for various reasons ranging from lack of PVC cement for fastening the casing pipe together to introduction of foreign matter that plugged up the well. These tribulations are documented in the water-supply report.

All wells were drilled with relatively inexpensive, manually operated equipment by local workers under the supervision of a drilling specialist. These techniques were tried after earlier attempts to obtain the services of outside contractors were unsuccessful. The low technology

TABLE 2

Summary of Buildings Constructed by Abyei Project

Type of Structure	Style	Floor Area Square Meters	Number Built	Year Built	Time Required For Construction	Approx. Cost Per Unit (Sudanese Pounds)	Total Cost
A. Traditional Buildings							
1. Houses	mud with thatch roof	20	9	6 in '78 2 in '79 1 in '80	30 days each	100 each	900
2. Storerooms	mud with thatch roof	20	1	'78	20 days each	100 each	200
3. Luaks	mud with thatch roof	40	2	'80	50 days each	1,000 each	2,000
B. Modern Buildings							
1. Houses	2 room brick with metal roof	36	3	2 in '79 1 in '80	60 days	6,000 each	18,000
2. Small storage buildings	3 room brick with metal roof	52	2	'79	60 days	6,000 each	12,000
3. Workshop	open with 4 ft. brick side walls metal roof on wood trusses and steel poles	328	1	'80	6 months	22,500	22,500
4. Warehouse	brick with metal roof	266	1	'80	4 months	18,500	18,500
5. Fuel storage	Prefab metal sides and roof on steel frame	63	1	'79	15 days	5,000	5,000
6. Dining/meeting hall	hexagonal with brick and screen walls, thatch roof	55	1	'80	3 months	4,000	4,000
7. School classrooms	open with brick side walls and metal roof on wood trusses and steel poles	48	4	'81	15 days	4,750 each	19,000
8. Generator house	brick with metal roof and steel door	11	1	'80	30 days	2,000	2,000
TOTAL		1,283	27				104,100

Notes: Cost of construction includes all material, transportation and local labor costs. It does not include the cost of the foreign technician supervising the construction activities and preparing the designs of the buildings which amounted to $60,000 over 3 years.

drilling system was relatively slow but required no fuel and relatively simple equipment that could be repaired in Abyei. The three types of hand pumps tested in Abyei for brief periods all worked successfully. They included the Robbins and Myers pump from the U.S., the Agricola PVC pump from Canada, and the Mark II from India.

The radio communication system installed in Abyei proved to be remarkably effective. It consisted of a Trans World Communications single side-band transceiver powered by a 13 x 20 inch Solar Power Corp. photovoltaic solar panel and 12 volt battery. This equipment required minimal maintenance and provided regular, reliable service with Khartoum, Juba and Kadugli.

The airstrip at Abyei was realigned, extended from 600 to 1100 meters and equipped with a windsock. All this was done by the project with the approval of local military and civilian authorities. The improved airstrip together with the radio communications meant that light planes could land at Abyei throughout most of the rainy season because pilots could be advised in advance whether the strip had dried enough for use. A directional radio beacon that would help pilots locate Abyei in dusty or rainy weather would further improve air services. This was proposed by USAID once it started regular air service to Abyei, but had not been installed at the time the team left. Such a beacon operated off a solar panel similar to that used for the radio would assure continuous service.

b. Organizational Infrastructure

The organizational arrangements for carrying out the Abyei project that evolved over time were more informal than formalized. This was mainly due to the conflicting objectives and interests of different parties at the national, provincial and local level, as discussed in Section 5. The informal arrangements proved successful in carrying out the work of this phase of the project, but they did not create a solid basis for the continuation of development activities, as will be discussed in Section 7.

The project was the responsibility of the Ministry of Agriculture and Natural Resources, which appointed all Sudanese staff and arranged for the funding from the Sudan Government budget and from AID. The Ministry in 1978 appointed a national level supervisory committee

consisting of the Provincial Commissioner and several concerned ministers, but this committee never met. The Minister of Agriculture, who took a personal interest in the Abyei project and was always available and helpful in solving any problems, preferred to operate on the basis of ad hoc meetings with relevant parties as needed rather than through formal committees. The Director General of Planning in the Ministry of Agriculture operated in a similar manner. He convened one meeting of an interministerial technical committee in December, 1978 to review the progress and new proposals for the Abyei project, but thereafter dealt with project matters personally. This facilitated decision making but not cross-ministerial coordination.

The Provincial Commissioner appointed a provincial-level committee to oversee the project in March, 1978, but none of the committee members ever visited Abyei. Disagreements between the province and the project over the responsibility for, and focus of, the agricultural program, and the absence of direct communication between Abyei and Kadugli during the rainy season in 1978 contributed to a breakdown in coordination. Also the mishandling, by the Provincial Government, of the initial grant of Abyei project funds from the Central Government budget, led to the assignment of accounts and financial responsibility directly to the project director, who was an employee of the Ministry of Agriculture, rather than through the Provincial government.

At the local level, original proposals for the creation of an Abyei Peoples Development Organization foundered on the shoals of local factionalism and the question of which authority should create such an organization: the Ministry of Agriculture, the Province, the District or the Local Rural Council. The Province seemed like the most logical level, but there was concern that, with the power to create went the power to control or destroy, and most people in Abyei were reluctant to see the Province rather than the Ministry of Agriculture controlling the project.

Consequently informal arrangements prevailed at the local level and they proved effective. The Sudanese co-director of the project shared a house and maintained close working relations with the local representative of the Provincial Government. Seven of the eight other senior Sudanese staff of the project were from Abyei and were related to the families of the traditional local leaders. Thus there was ample

d) the souk lorries, or privately owned trucks, that made the trek of more than 600 miles from Khartoum to Abyei in about 5-6 days carrying 5 tons of supplies and charging LS 600-800 ($800-1,000) per trip depending on the season.

e) the purchasing and shipping offices in London (Relief and Development Services, Inc.) and Cambridge (HIID and the Harvard University Purchasing Office) which had standardized catalogues and parts lists similar to those in Khartoum and Abyei so they could order equipment and parts by number rather than description.

At its best, this system could deliver parts from the U.S. to Abyei within two weeks of their initial request. The system broke down from time to time because of:

a) lack of funds--that forced postponement of procurement and then air shipment, which was always more costly and often more uncertain.

b) breakdowns in telex and telephone communication between Khartoum and the outside world.

c) mishandling of shipments in England.

d) strikes of transport workers in the U.S. and Sudan that left shipments stranded for long periods.

e) customs clearance in Sudan--the project had to use AID's system of customs clearance--first through the U.S. Embassy (where AID contractors were considered lowest priority). Later AID had a system that was handled by a private contractor who was unreliable and eventually replaced. Shipments of crucial items could disappear for weeks in customs and/or the U.S. Embassy warehouse.

Abyei is generally described as a remote and inaccessible area that is perhaps too remote to be the focus of such a rural development project. On the other hand, it is typical of many parts of the Sudan and Africa that are far from the very limited road, rail and navigable river network and are inaccessible during the long rainy season. The logistic system for the Abyei project demonstrated that, with adequate advance funding and appropriate organization, there is no reason why such a project in such an area cannot be adequately supported at reasonable costs.

discussion of project ideas and activities in the local community and a steady stream of local residents to the project office to request services or supplies from the project or to object to project activities such as the use of local cattle as draft animals.

The one type of formal organization that was developed at the local level was the group farms. These were groups of farmers from 30-35 families who joined together to clear land for tractor cultivation and then shared the weeding and the harvest of their common field. As described in the agriculture and the popular participation and local organization reports, the group farms worked better when members were from one subtribe rather than several, and when a traditional leader was in charge and effective. Two of the four group farms were successful organizations and, although the rationale for their existence as groups to carry out tractor-based farming was largely discredited by the demonstrated inefficiency of tractor cultivation around Abyei, their role in arranging for cooperative development of wells and grain storage facilities or purchase of simple farm tools, grain mills, oxcarts and medical supplies for both people and animals looks more promising.

The other, highly effective aspect of organizational infrastructure of the project was the logistic system that stretched from Abyei to Muglad to Khartoum to London and Cambridge. After a disastrous first year in which none of the links between Abyei and Cambridge were functioning, the system was established step by step. The key elements in the system were:

a) the warehousing and inventory system at the project in Abyei that alerted the project staff to diminished stocks and the need to reorder.

b) the radio contact from Abyei to Khartoum and secondarily to Muglad, that made it possible for the people in Abyei to make requests on a daily basis and keep track of the movement of supplies en route to Abyei.

c) the project office in Khartoum which received the daily radio messages, arranged for local purchase and shipment of supplies, transmitted orders to London or Cambridge that could not be filled in Khartoum, received and cleared the shipments from overseas and sent them on to Abyei, and finally kept Abyei informed of the status of these activities.

c. Production

Production activities in this first phase of the Abyei project were oriented more to finding out what could be produced and how best to produce it than to achieving output targets. Thus the emphasis was on a range of products and technologies rather than increasing production per se. Nevertheless, production activities organized by the project did result in output of the following types of commodities:

1. Agricultural Products
   a. Sorghum
   b. Sesame
   c. Cowpeas
   d. Pigeonpeas
   e. Miscellaneous fruits and vegetables
2. Wood Products
   a. Furniture (tables, chairs, storage shelves, etc.)
   b. Ox yokes
   c. Beehives
   d. Window and door frames
   e. Charcoal
   f. Tools and tool handles
3. Metal Products
   a. Tools (for farming, woodworking, welldrilling)
   b. Window and door frames
   c. Workbenches
   d. Watertanks
   e. Oxcarts and tractor trailers
   f. Charcoal retort
4. Ceramic Products
   a. Bricks
   b. Cement zirs for grain and water storage
   c. Latrine platforms and covers
5. Complex Products
   a. Threshing machine for sorghum
   b. Wood lathes

d. Learning about the Environment

As suggested in Section 4, one of the main constraints facing the Abyei project at its inception was lack of information about the physical and human environment of the area. Several surveys of the physical environment, that were proposed to be done by the Soil Conservation, Land Use and Water Resource Programming Division of the Ministry of Agriculture and Natural Resources in the spring of 1977, were never carried out. The socio-economic and nutrition surveys that were conducted at the end of 1977 were of limited value because they were done in a hurry, under adverse circumstances, by inadequately supervised surveyors. Therefore, as field operations got underway in April, 1978, information on the environment was mainly impressionistic and many of those impressions proved to be wrong.

Because of the difficulties of transporting and accommodating large survey teams in Abyei and because of the inadequate results of previous such efforts, the approach to gathering information on the environment and traditional practices was shifted from short-term intensive studies to a carefully designed set of longer term investigations, each of which was carried out by one or two persons under the supervision of the project research coordinator, Richard Huntington. Huntington, a faculty member of the Harvard Anthropology Department, and a visiting professor at University of Khartoum, divided his time between Abyei and Khartoum throughout 1979 and 1980, designing, guiding and participating in the field studies. A particular advantage of these longer term studies was that they permitted the investigators to observe conditions through a full annual cycle rather than just observing dry season conditions, as had generally been the case in the past.

The second important contribution to better understanding of the environment resulted from trying to carry out certain project activities such as farming, constructing buildings, drilling wells and transporting goods. These gave a more immediate awareness of the influences of climate, soils, animals on such activities as well as the responses of the local populace to such factors.

Four key perceptions of the environment were significantly changed or clarified as a result of these investigations and project activities. The first had to do with the human population of the Abyei area.

Initial estimates from some of the local inhabitants in 1976 and 1977 ranged from 80,000 to 100,000 people. At the other extreme, an aerial survey of livestock and human settlements by R. Murray Watson and Associates had given an estimate of 16,000. We now have two independent estimates that converge on 30,000. One presented by Jane Hayes in her report, Land Use Analysis/Population Survey, uses information from a household survey on family size and number of registered voters per household along with the number of registered voters in the Abyei area to give an estimate of 29,500 for the total population. The second estimate prepared by Maryan Niamir, in conjunction with her work on the livestock survey, uses a ground level count of houses in the main inhabited areas and her own survey results of average family size to produce an estimate of 31,100.

The second key perception that has been revised as a result of project activities is the assessment of available cultivable land. Initial impressions were that the supply of such land was practically unlimited, that existing farms were occupying only a fraction of the potential. Current estimates, as discussed in Section 3 of Richard Fuller's Agriculture Report, indicate that cultivable land is much more limited, perhaps only about 30,000 feddans or double the 14,000 that he estimates as currently cultivated. The major factors limiting the supply of cultivable land are water-logging and poor drainage of low lying areas, and the need for bush fallow periods of 40 years to eliminate infestation of striga that takes over in sorghum fields after 8 to 10 years. If some way can be found to control striga and to maintain fertility of fields in continuous production, then the potential cultivated area may increase by as much as four fold, but it will still lie in relatively narrow bands between the "sandy ridges" and low-lying rainy-season marshes.

A third perception that now is questioned is whether the carrying capacity of rangeland in the Abyei area is being exceeded. Earlier assessments based on notions of desert-creep and increasing pressure of herds moving in from the Northwest suggested the likelihood of overgrazing in the Abyei area Niamir's investigations, described in Chapter 5 of her report on the livestock survey, suggest that is not the case, but she is less certain about the common dry season grazing of several tribes to the south and east of Abyei. She suggests these areas need further study before any decisions are made to expand herds of the Ngok and their neighbors.

The fourth perception of Abyei that has changed as a result of our studies is that it is a sleepy backwater, far removed from the main lines of trade and transportation. Analysis of transactions in the livestock market in Abyei, as reported in Chapter 9 of Niamir's report, indicate that roughly ₤Slmillion of cattle sales occured in that market in 1980. Many of these cattle come from the South and are exchanged in Abyei for food and other commodities from the North. The cattle in turn are bought by Northern merchants and herded up to Khartoum. Thus Abyei is one of perhaps three or four major commercial connection points between North and South Sudan. It therefore has more potential as a communication point than previously realized and conversely a potential for disruption of commerce if the area is plagued by intertribal conflict.

Much additional information about the Abyei environment is contained in the attached reports, such as rainfall patterns, soil characteristics, plants and trees identified and groundwater availabilities.

e. Learning What Works

The fundamental objective of this first phase of the Abyei project was to learn what does and does not work in that environment. This concept of workability has a technical and an economic dimension, and also a social dimension. In the limited period of roughly three years of effective field operations, it was not possible to probe all dimensions deeply, and the rigor of the data collection under difficult field conditions and limited staff left much to be desired. Nevertheless, as the attached reports show, it was possible to test the technical feasibility of, and the social response to, a number of activities. Rough assessments of economic feasibility were possible for a few activities, but most require more extensive experience, data collection and analysis.

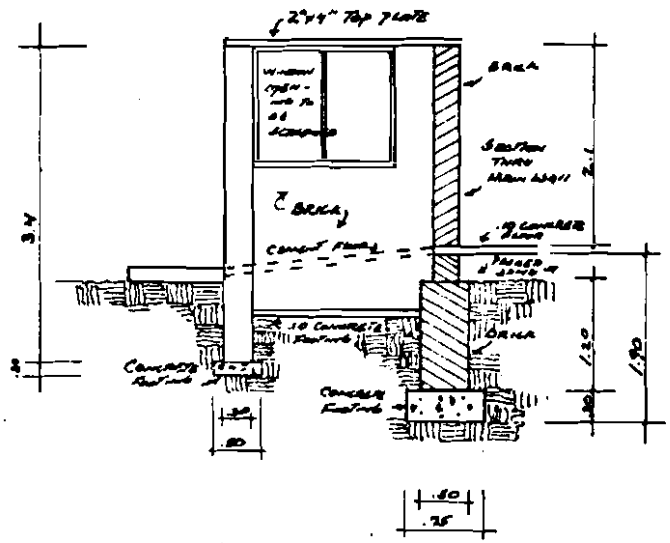
One of the most important findings of the project, as discussed in Fullers report, Sections 6 and 7, was the almost total uselessness of mechanized farm tillage either with tractors or with draft animals. Plowing and harrowing contributes little to seedbed preparation or weed control. The plastic soil conditions in the rainy season preclude mechanical weeding when that is needed; and large scale mechanical planting is not suited to the narrow bands of adequately drained land. Given the technical limitations of mechanized farming and the high costs of tractors, implements or maintenance of draft animals, the economic returns to mechanization are extremely negative.

The traditional farming system on the other hand seems to represent a relatively efficient accommodation to the local environment that yields reasonably high returns to labor and land in an average year.

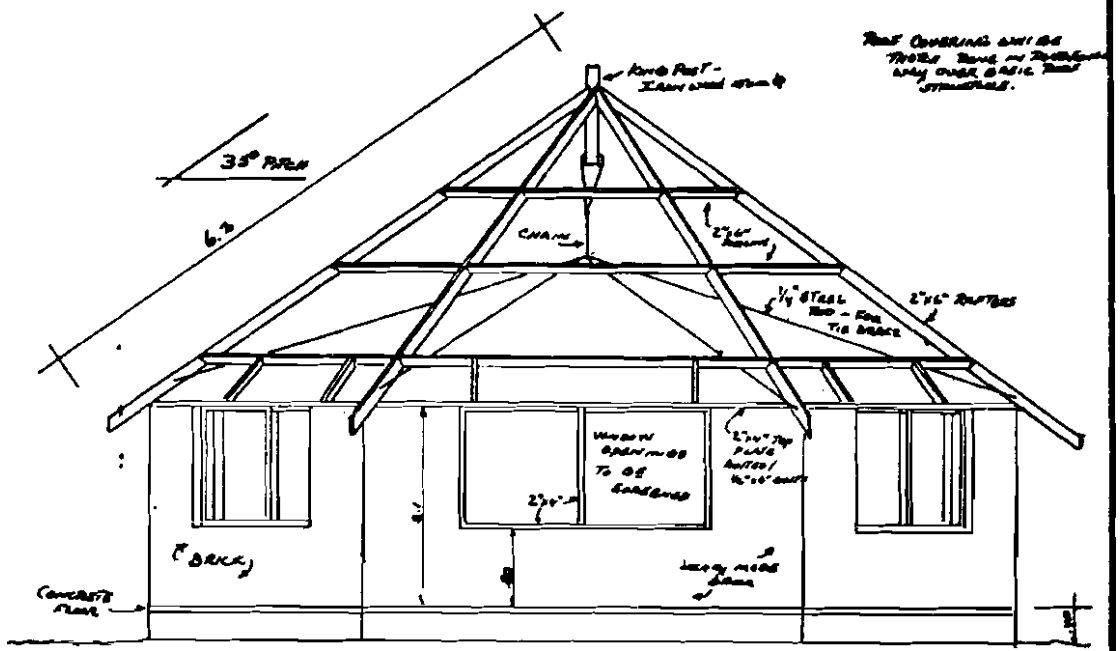
Some very preliminary tests of a new zero tillage technology, developed by the International Institute of Tropical Agriculture in Ibadan, Nigeria, suggest the possibility of doubling or trippling the area farmed per household without any increase in labor inputs. This technology, that uses an ultralow volume herbicide spray in place of handweeding, appears to fit in reasonably well with traditional farming practice, and to yield positive economic returns, but it needs to be tested more extensively in the Abyei area before it can be considered for local adoption. Also if this technology is to lead to a significant increase in the area planted to sorghum, some means will have to be found to control the parasitic weed, Striga.

In the realm of water supply the report by Cole and Eaton indicates that the manually operated drilling system and the three types of handpump tested at Abyei all worked. How they would stand up under continued use, or whether they are too complicated or demanding of human effort remains to be seen. The drilling program did not run long enough to train local workers who could carry it on independently. If it is to be continued, outside technical assistance will be needed. Also somewhat more complicated motor-driven drilling rigs might be tested if the program is to be implemented quickly. Cost estimates for the drilling of wells are still very preliminary but appear to be in the area of LS2,000 or $2,500 per well including the pump. Use of the first well completed was very intensive (16 hours of continuous operation per day), but whether groups of households will be willing to organize themselves, to pay part or all of the cost of a well and to maintain it also remains to be seen.

The construction program demonstrated the necessity of deep foundations in the cracking clay soils of Abyei and of construction techniques such as metal window and door frames, to withstand the termites. The two inovations that worked best in Abyei were the designs of the dining hall/meeting hall and the workshop. The former structure, which was also labeled a gazebo, or a luak after the local cattle byres, had a hexagonal floor plan and a conical thatch roof that resembled local houses and cattle byres. But it differed from the local structures in that the walls were constructed of brick--instead of mud and wattle; it had ample cross-ventilation from large windows-instead of a single small door; and it did not require central roof poles as the large luaks did. All of these design features seemed appealing to local inhabitants who came considerable distances to see how it worked.



ELEVATION OF FLY TRAP ENTRANCE



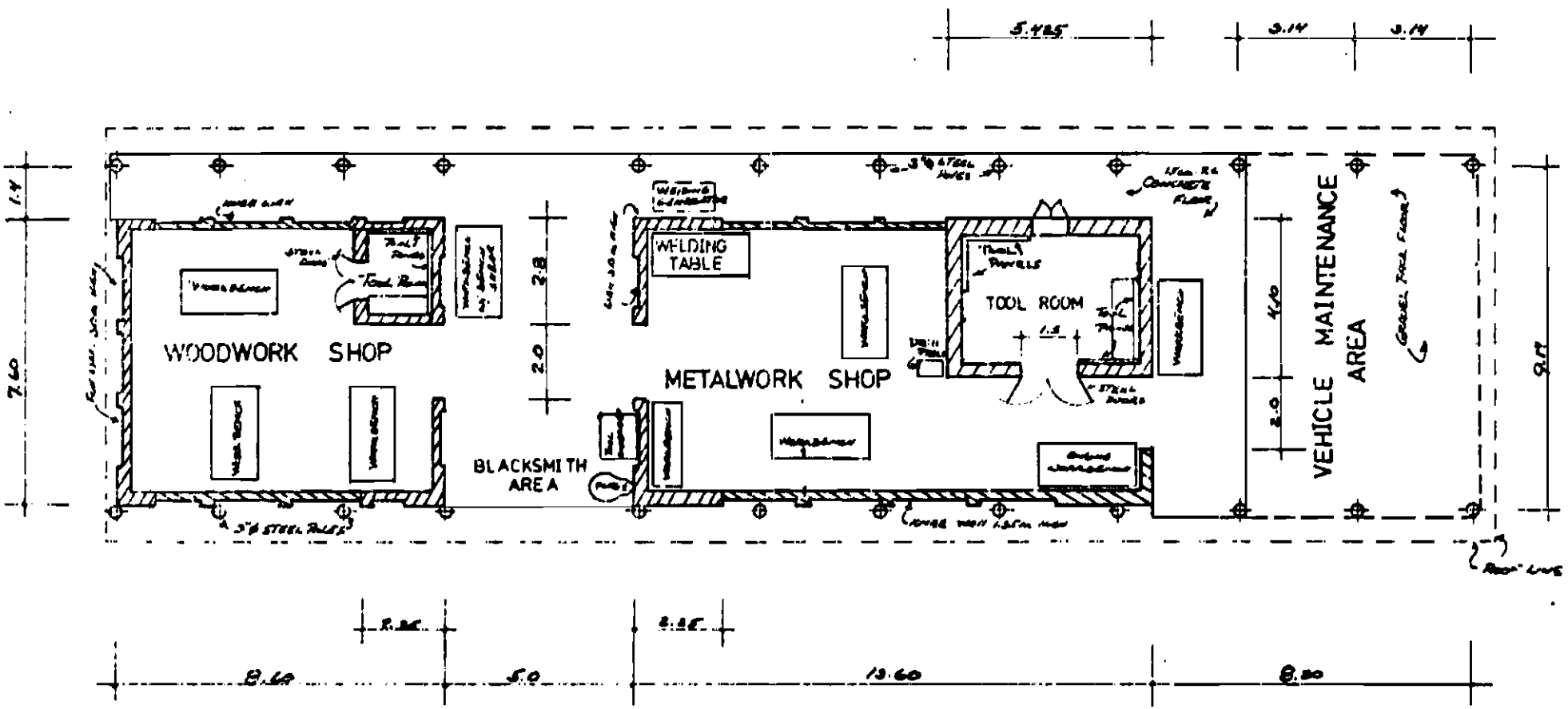
WEST ELEVATION

ALL MEASURENTS IN METERS

GAZEBO

HIID - ABYEI DEVELOPMENT PROJECT - SUDAN

DATE: MARCH 1980	SITE DUOP	SHEET no. 2/4
SCALE: 1:50		
DESIGNED BY: DONOVAN, SHARP		



FLOOR PLAN

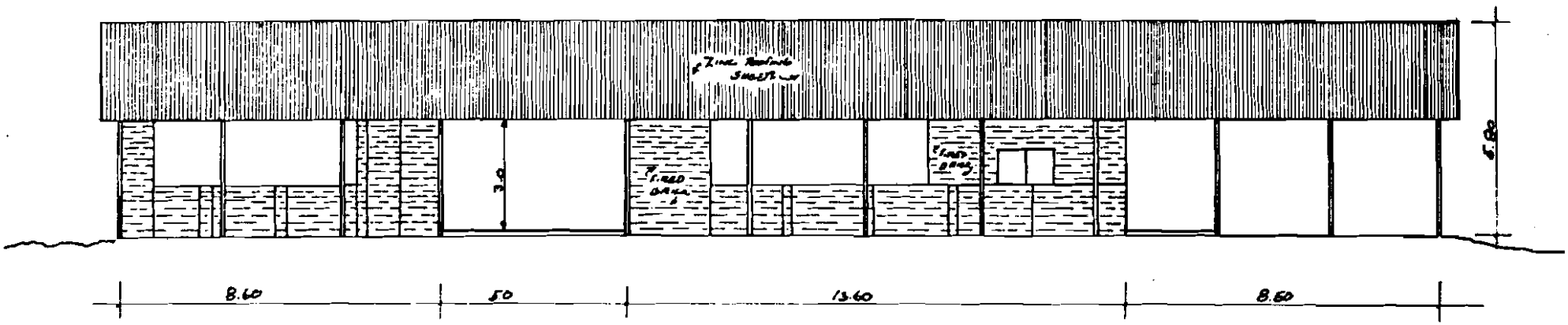
NORTH

ALL MEASUREMENTS IN METERS

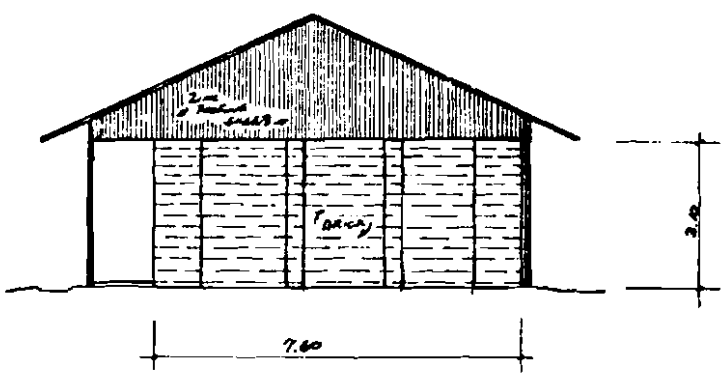
WORKSHOP COMPLEX

HDD-ABYEI DEVELOPMENT PROJECT SUDAN

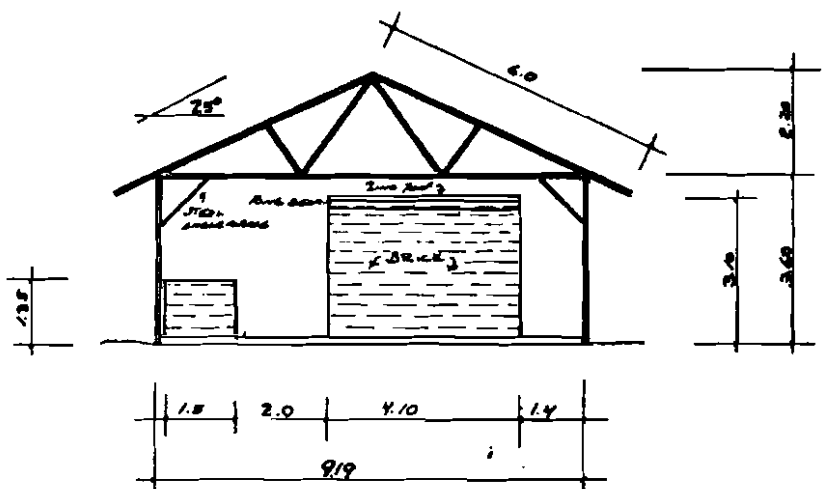
DATE: JANUARY 1980	SITE: DUOP	SHEET no. 1/6
SCALE 1:100		
DESIGNED BY: DONOVAN, SHARP		



NORTH ELEVATION



EAST ELEVATION



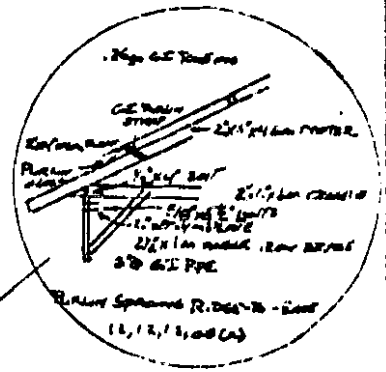
WEST ELEVATION

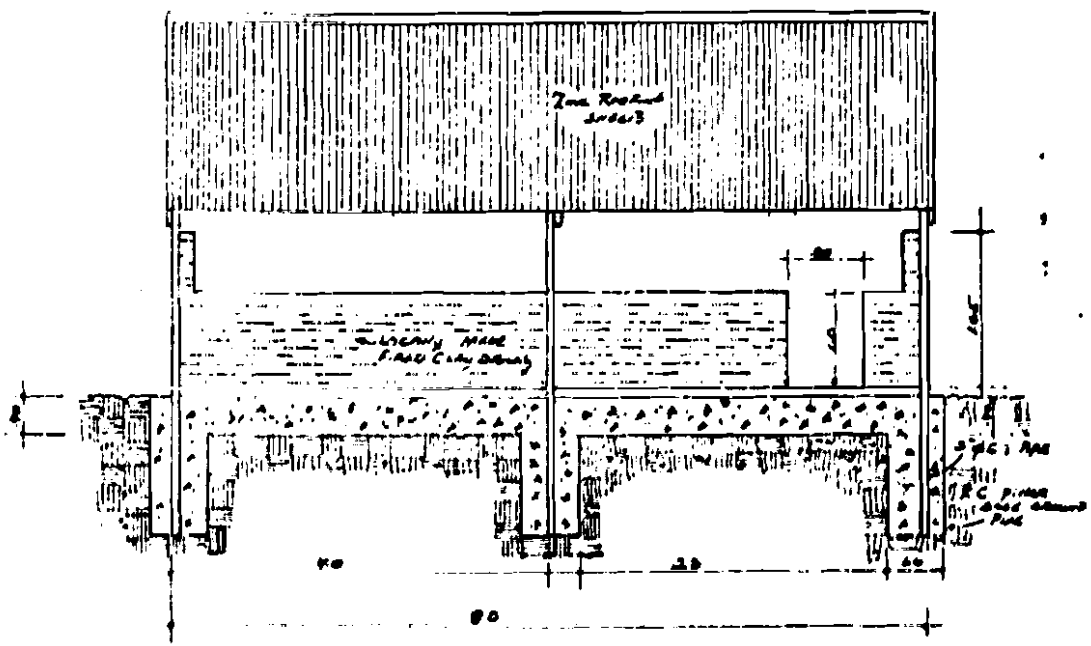
ALL MEASUREMENTS IN METERS

WORKSHOP COMPLEX

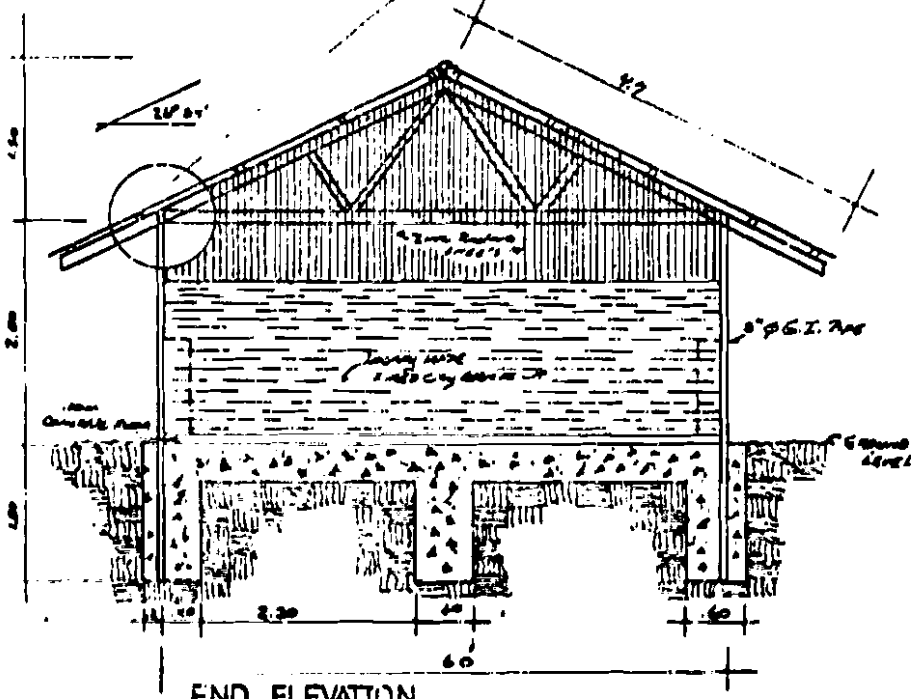
HIID - ABYEI DEVELOPMENT PROJECT - SUDAN

DATE - JANUARY 1980	SITE DUOP	SHEET no. 2/6
SCALE: 1:100		
DESIGNED BY: DONOVAN, SHARP		





SIDE ELEVATION



END ELEVATION

E.D.F. SCHOOL CLASSROOM

HIID - ABYEI DEVELOPMENT PROJECT-SUDAN

DATE: JANUARY 1981		SHEET no. 2/5
SCALE: 1:50	SITE - BANTHON	
DESIGNED BY: J. SHARP		

ALL MEASUREMENTS IN METERS

The work shop was designed to serve multiple uses in an open structure that gave good cross-ventilation and protection from the sun during the hot daytime work hours. Initial construction of a wood truss and sheet metal roof on three inch steel pipe supports set in 1.5 meter deep concrete bases provided an area protected from sun and rain in which further construction could take place. Low 4 foot brick walls provided adequate barriers to keep observers from wandering through the shop while still permitting them to see what was going on. The same basic structure was used for primary school buildings constructed in two outlying villages. It proved very flexible and efficient to construct, as different crews could work on different aspects of the undertaking as material and other demands permitted.

These two designs could serve as models for future construction in the Abyei area. The hexagonal luak design would be suitable for houses or offices that need to be closed in with screens and shutters. Several units could be connected with inside passages or outside covered walkways. The rectangular, open workshop design is also suitable for schools, dresser-stations and covered market areas that are used mainly in the daytime. It is possible to build secure storage areas for tools, school supplies, medicines and merchandise within these open structures.

Finally with respect to construction, the project did succeed in producing a serviceable kiln-fired brick, but the nature of the clay around Abyei and the difficulties of maintaining adequate controls over the molding, drying and firing processes all contributed to the mediocre quality of the product and relatively high cost per useable brick. There remains a need to explore alternative building techniques and materials(such as cement blocks and asphadobe) to see how they would compare in terms of economic efficiency.

Transportation was initially seen as one of the main constraints on development of Abyei and one goal of the project was to explore this constraint and see how it might be moderated. A first significant finding was that much of the commercial activity moves on foot. Livestock are led into and out of the area in large numbers throughout the year and would not be transported by any other means even if they were available. The Missiriya use their cattle as a principal means of transporting their household belongings; the Dinka do not, but instead carry goods to and from their homes on their heads. This means that among the Dinka all commodities other than livestock are transported in relatively small quantities over relatively short distances. The existing production and consumption structure

among the Dinka does not create much demand for transportation.

The movement of goods--other than livestock--and of people, between Abyei and the outside world, does depend on modern transportation. At present consumer goods such as cloth, sugar, tea, cigarettes are brought into Abyei from the North by truck in effect in exchange for the cattle which move north on the hoof. A similar trade pattern occurs between Abyei and the South although more grain moves south from Abyei in exchange for cattle, and more of it is transported by humans than by truck .

Most of this transporting takes place during the dry season and will continue to do so for the foreseeable future. The cost of building an all weather road plus bridges and ferries to carry traffic north and/or south throughout the rainy season would be infinitely greater than the cost of building increased storage for goods transported easily during the dry season.

The major unmet need is for urgent or emergency human transportation during the rainy season. Within the Abyei area this need can be met most readily with tractors and small trailers for the foreseeable future. Land-rovers and other 4-wheel drive vehicles are either ineffective or very expensive. An airboat, which was tested on a very limited basis, can operate effectively on the rivers and seasonal streams throughout most of the rainy season, but it is a costly and relatively inflexible conveyance. The best prospect for meeting rainy season demands for travel in and out of the area is through better drainage and surfacing of the airstrip at Abyei, maintenance of radio communications and directional beacons to bring in planes as needed, and improvement of air services out of Khartoum or Wau that could serve Abyei and similar towns that are isolated during the rainy season.

In addition to these major findings with respect to agriculture, water supply, construction and transportation, much was learned about existing practices and possible improvements in animal husbandry, health care, food storage and processing and simple manufacturing. These are discussed in the attached reports.

f. Training

The preliminary plan for the Abyei project, prepared in January, 1977, called for a substantial involvement in formal education. This included assistance in transferring the Abyei junior secondary school back to Abyei from El Fula, nearly 200 miles away, where it had been located during the

civil war; and also working with the three primary schools to make their curriculum more relevant to local needs. Nothing much came of this plan for several reasons. The primary schools were barely functioning. They lacked teachers, food for the students, supplies of all kinds and were not much interested in considering curriculum changes or new activities. The provincial education authorities did not want the project involved in the Abyei school program. The province did build a new secondary school building in Abyei but lacked funds to complete the ancillary facilities so continued to operate the school in El Fula for boarding students from Abyei.

Given these barriers to working with the formal education system, the project focused instead on non-formal on-the-job training. These training activities were taken up as needed to carry out other aspects of the project. Brick makers were trained as part of the brick production process. Masons and carpenters were trained as the buildings were constructed. Semi-skilled blacksmiths and welders were hired and their skills improved on the job. The project was unable to find any trained mechanics or well-drillers who were willing to live and work in Abyei, so it was necessary to select some promising candidates from the existing workers and train them from scratch. As William Donovan states in his report on training, these workers were also taught how to solve problems and become more self reliant.

Such on-the-job training was an important aspect of every facet of the project from agriculture to health to well-drilling. In a few areas, such as health, formal curricula were prepared and a group of health workers was given a regular set of lessons, but even these were for people who were already employed for that type of work.

The project, in most instances, did not push on to generalized formal training programs that were not job related. It was felt that the kinds of skills in which training would be most appropriate for people in Abyei was not yet clear, and the project wanted to avoid simply training people who would then leave the area to use their new skills. The one exception to the pattern of job-related training was the maternal and child health courses for mothers that were conducted during the first few months of the project partly as a means of learning about the health problems of the community. Subsequently this type of training was taken over by the staff at the Abyei Health Center/Hospital and by the project-trained health workers at the four group farms.

No tests were given to the on-the-job trainees to determine how much they had learned or whether their skills were appropriate. But, as Donovan suggests in his report, all of the fourteen modern buildings that were constructed, all the vehicles and machinery that were being maintained and operated were the results of on-the-job training of previously unskilled workers who had been trained and guided by the half-dozen foreign and Sudanese technicians. The training had probably not progressed to the point where those workers would be able to function on their own, but that had not been the original intention or plan of the project. Rather, this first phase, in which we learned what made sense for Abyei, was to lead to a second phase, in which the training would be extended and the support systems created to undergird a self-sustaining development process that could spread out throughout the area and beyond. If that second phase does not come to pass, some of the project-trained workers will return to their traditional pursuits, some will move on to other areas where their new skills are valued, and probably a few will find it possible to continue on, producing their new good or service for the Abyei community.

and build coalitions to make things happen. Throughout 1977, they tried a number of combinations that failed until finally near the end of the year they gained the support of the U.S. Ambassador and the Minister of Agriculture for the project and got it moving.

But this coalition inevitably stirred up the opposition of the Provincial Commissioner in South Kordofan who saw the project as one more political maneuver by the people of Abyei to put themselves in a special status of semiautonomy with direct links to Khartoum that bypassed his authority.

Similarly USAID saw the coalition as an unholy alliance that gave HIID direct access to senior officials in the Sudanese government and presented the AID mission with a political project that it had not designed, but still had to fund. Little wonder that both the provincial authorities and the AID mission were waiting for the first misstep or sign of breakdown in the coalition.

The provincial commissioner found his early on, within one month of the start of field operations in April 1978, when he received simultaneously a request from the Abyei project director to take over control of the province's mechanized farming activity in Abyei and a letter from Francis Deng criticizing the Provincial Administration for not giving more support to the project. At subsequent meetings with the Acting Minister of Agriculture, Francis Deng, AID and HIID representatives in Khartoum, the Provincial Commissioner first threatened to force termination of the project, then relented and allowed it to continue, but with the clear understanding that if it was not under his direct control then he would give it minimal support, which is exactly what he did.

The AID mission's opportunity came the following year as the leaders of Abyei became increasingly dissatisfied with the HIID approach, which they considered much too slow and too modest. While on one hand the AID mission was not much interested in an accelerated and expanded project in Abyei, and on the other they couldn't just close down a political project without good reason, they saw the disagreements between HIID and the Abyei leaders as providing an opportunity for them to take a stronger hand in what was now classified by AID/Washington as a troubled project, and to redirect it in ways that would be more manageable, or at least less troublesome and out of their control. But any notions of either expanding or redirecting the project were ruled out by the Minister of Agriculture, who had direct responsibility for the project, and who seemed to feel it was moving ahead on the appropriate scale and schedule. When queried by the AID mission in August, 1979, he indicated his strong support for continuation of the project as it was going.

Six months later when Francis Deng had to leave his position in the Ministry of Foreign Affairs for health reasons, the political constraints on foreclosing on Abyei were removed for both USAID and the Provincial Government in Kadugli. Subsequent changes in the U.S. Ambassador and the Minister of Agriculture merely helped to clear the way. Within a few months Deng's associates and relatives in Abyei were being harassed and arrested by provincial authorities and their homes and herds were being attacked by unidentified raiders from the North. Activities of the project were curtailed to some extent because of the unsettled conditions.

Also during the spring and summer of 1980 USAID/Sudan sent a series of messages to AID/Washington indicating a growing disinclination to continue the Abyei project and finally culminating in a letter to HIID in August stating that there would be no further funding for the project beyond June, 1981. These decisions were taken without consulting the Sudanese authorities, but apparently it didn't much matter because the individuals who had supported the project were all gone, and there was no longer an effective spokesman for Abyei in Khartoum.

Subsequent visits to Abyei by a Presidential Commission of Enquiry into the political conditions in Abyei and by an AID-hired team to evaluate the Abyei project did little to change the course of events. The Commission confirmed that Abyei would continue to be within South Kordofan, and not be shifted to the Southern Region. The Dinka of Abyei would have to make peace with their neighbors to the north and give up their aspirations for special status. The project evaluation team concluded that the project in Abyei should not be continued for reasons that will be discussed in Section 8. This recommendation was quickly accepted by the AID mission. Thus any special impetus or effort for development in the Abyei area will have to be in some new form and undoubtedly linked much more closely to the Provincial Government in Kadugli.

The second and related failure of the project was in terms of its impact on intertribal tensions in the area. It had been hoped, perhaps naively, that the project would be able to work with both the Dinka and the Missiriya people and that this would help the two tribes to moderate their differences. Clearly the notion of trying to reach the Missiriya people from a base in Abyei was unworkable, especially after the provincial authorities barred the Missiriya from bringing their livestock into the Abyei area.

In retrospect it seems as though it would have been adviseable to have had a second base camp as Muglad, the center of the Missiriya tribe. Not only would this have given year round access to at least part of the Missiriya people, but it also would have helped to support the operations in Abyei. Whether working with both groups would have made any difference in terms of the broader political issues affecting the project is hard to say. It certainly would have necessitated a much larger and more complicated project. And it would have required a constant sensitivity to the nuances of intertribal relations.

8. Evaluation

Several evaluations were made of the Abyei project between January 1980 and February 1981 for the dual purpose of deciding whether and how the project should be continued and what lessons could be learned from this experimental undertaking. Despite their similar intent, the evaluations arrived at significantly different conclusions and the question arises as to whether the evaluators perceived different things or whether their premises and criteria differed. The three main evaluations were made by AID, HIID and DAI (Development Alternatives Incorporated, a consulting firm hired by AID).

a. AID's Evaluation

The original memorandum of understanding between the Government of Sudan and Harvard stipulated that the Government, Harvard and USAID/Sudan would "conduct an evaluation of the project within 15 months of the signing of this agreement (March 1978), to assess whether sufficient progress had been made to warrant an extension of the project." This evaluation was postponed by six months until January, 1980 when the first phase of the project was extended for 16 months in mid-1979. Although the evaluation was conceived of as a tripartite undertaking, USAID/Sudan assumed responsibility for the

arrangements. The Sudanese Government either was not invited to participate or was unable to send a suitable participant. HIID was represented by the project coordinator from Cambridge, the research coordinator and liaison officer from Khartoum and the team members in Abyei. AID was represented by the project officer from Khartoum, who had made one previous visit to Abyei in May, 1979 and was the only AID official who had visited the project since a brief inspection by the U.S Ambassador, the AID Director and the AID Program Officer in April, 1978, two weeks after the arrival of the first field team. The AID mission evaluation officer in Khartoum did not participate in the field evaluation.

The ground rules for the evaluation were set by the AID representative and basically consisted of trying to draw up a logical framework for the project and then determine to what extent various goals and quantifiable objectives had been achieved. Such a formal log-frame had not previously been prepared for the project, in part because the project had not evolved through AID's standard project development process, and in part because the project designers from HIID thought that a more flexible, open-ended framework was better suited to the limited information available at the design stage and the experimental approach of the project. The original project paper of October 1977 had defined the objectives and indicated the main areas on which the project would concentrate. The approved amendment of the project paper, drafted in January, 1979, had contained a more detailed set of action plans and a long list of questions that the project was hoping to answer, but it did not lay out a detailed plan showing how specific actions were expected to lead to specific results, or answers to specific questions. HIID saw the working out of this detailed plan as the responsibility of the project co-directors in the field on a day-to-day basis in response to the latest information on obstacles and opportunities. A detailed advance plan was seen as a triple waste of time: first to prepare it; second to revise it; and third to explain why it had been revised or why specific targets had not been met. So long as the field staff was doing this effectively in the field, both HIID and the Ministry of Agriculture were willing to rely on regular monthly reports to be informed of decisions taken and results.

The AID mission was not satisfied with this approach and therefore the main focus of the evaluation seemed to be to impose a log-frame on the project two-thirds of the way through its expected life. The AID project

officer/evaluator quizzed the field team members on their views as to the priority of different goals and their estimates of quantifiable targets and input requirements for their respective activities. At the end of this process he appeared to reach the following conclusions:

1) That the goals of the project were too ambitious and should be scaled down.
2) That there was basic disagreement between the Sudanese (Dinka) and HIID members of the project team over the relative priority to be given to action programs and to research.
3) That the project was trying to work on too many activities and instead should concentrate on a few well-defined action programs and set other objectives aside or get others to take them up.
4) That the project had accomplished little in terms of tangible results over the first two years and was unlikely to do so unless efforts were concentrated on a few activities.
5) That it was premature to consider the planning of a second phase of the project because there was not enough hard information on which to base such a plan.

The results of this evaluation were presented orally in Khartoum in late January, 1980, but, although alluded to in several messages to AID/Washington, were never, so far as we know, released in an official written report. When these conclusions were conveyed, orally, to the Ministry of Agriculture officials, as the results of the evaluation, they were received with bemused wonderment. As noted, in the previous section, the Ministry at this stage felt the project was making reasonable progress.

HIID also disagreed with the conclusions of the AID evaluation and argued for continuation of the project on its established course including moving ahead with the planning of phase two so that there would not be a loss of momentum resulting from a hiatus between the two phases. The AID Mission rejected these proposals from HIID and considered terminating HIID's role in the project, taking over direct responsibility for administering the project but retaining the HIID field staff. When the field staff refused to go along with this proposal, USAID decided to call in another evaluation team to suggest what should be done with the project. HIID also decided it was time to undertake an assessment of the project.

b. HIID's Evaluation

HIID asked two people from Harvard who had not previously been involved with the project to make the trek to Abyei to review and evaluate performance,

identify the crucial issues for its future and its implications for HIID in the field of rural development. The two who agreed to go were Professor David Maybury-Lewis, Chairman of the Anthropology Department and a member of HIID's Faculty Council, and Dr. John W. Thomas, Institute Fellow of HIID and former Director of HIID's project with the Ministry of Agriculture in Kenya. Maybury-Lewis and Thomas were the eighth and ninth members of the Harvard Faculty to visit Abyei in connection with this project, the highest ratio of faculty participation relative to the size of project of any HIID undertaking.

Thomas concentrated on the project's organizational infrastructure and the issues the project raised for HIID. He concluded that the organizational questions were totally dominated by the broader macro political issues of North-South relations in the Sudan, and that until those were at least clarified not much could be done to improve the organizational arrangements for the project. His views about the value of the project for HIID and HIID's conduct of the project were basically positive, but these views were mainly of interest within HIID.

Maybury-Lewis looked at the project in broader terms of what various groups had expected from it, and what had actually been achieved through May of 1980. His conclusions were as follows:

"The Abyei project, like most development projects, was approved as a sort of compromise between the desires of various interested agencies. Since the Sudanese had high hopes for its political role in an area of conflict, it was very risky to adopt a low key, low cost action research strategy.

Such a strategy had another drawback. It was likely to provide an inconclusive test of the action research concept. If such a project were to be launched, nevertheless, it would have been prudent to insist on a higher level of funding than was made available for Abyei, and to use some of those funds to tilt the action research strategy in favor of some initial action, to build goodwill for the project. In fact, this may be a serious difficulty in the whole action research concept. People may accept research with a promise of action to come. They are more likely to be anxious about a low level of action, especially if there are also failures to report, while research is in progress and that anxiety may not only prejudice the research but the continuance of the whole project.

The project has been underfunded from the start. If this was the only way to get it launched quickly, then at least evaluators of it should make allowances for that fact. If it was a deliberate strategy to see what could be done in remote areas at low cost, then the strategy was misconceived. Low-cost development is supposed to be the end product. Projects to determine how to induce this must have additional funds for experimentation and for the exploration of alternatives when one strategy or piece of equipment is tested and found unsatisfactory.

Once the project had been launched, there were a series of disappointing initial failures. The first field team did not work out. Early programs did not succeed. The most positive thing that can be said about this stage of the project is that the relative success of the later period is probably due to the lessons that were learned at the beginning. Meanwhile HIID has learned a great deal about the art of getting equipment across the world and through the chaotic Sudanese transport system to Abyei, and the Sudanese staff have shown remarkable skill in managing these logistics within the Sudan.

Now the project is doing good research which may well become a model of its kind for the understanding of the relationship between Dinka economy, ecology and society. It is beginning to gain the enthusiastic support of participating Dinka, who see that some things are going well. It is at the point of being able to design development strategies for the Dinka which could be of general interest to students of development possibilities in areas of pastoralism and small farming, i.e., throughout much of Africa. It stands a good chance of being able to suggest development strategies for the area which are cost effective and which could be self-sustaining.

It cannot guarantee that such strategies will be effectively institutionalized but it is unreasonable to demand such a guarantee for an area where renewed fighting has broken out between Missiriya and Dinka and the political situation is extremely tense. Yet it is precisely this renewal of hostilities which makes it more important than ever that the project should be continued. The Dinka could be forgiven for feeling apprehensive at this moment. The one indication that they still have of government concern for them is the Abyei project. The political consequences of phasing out the project would thus be very severe.

Nor would this make much sense in developmental terms. The Abyei project is beginning to pay off. Its successes to date may be modest, but then so too are its failures. Indeed, if it were compared with the more visable

development projects elsewhere in the Sudan, many of them also funded by USAID, whose failures are both notorious and exceedingly expensive, then the Abyei project comes out looking very well."

c. DAI's Evaluation

DAI was initially asked by AID to "review alternatives for a second phase project," and to produce a report that "would serve as a basis for (a) PID (Project Identification Document) should Abyei II be deemed viable." (USAID message to AID/W number 3073 of 5 May, 1980.) Subsequently in a message dated 18 June, 1980 the terms of reference were revised to eliminate the consideration of continuation of the project and just concentrate on what had been accomplished and learned so far.

HIID was invited to send along a participant in the evaluation team, but, given the adversarial relationship that had developed between the AID project officer and the HIID project coordinator, it seemed to HIID that the best way to get an objective evaluation would be for DAI to go ahead on their own after being briefed by HIID in Cambridge and the AID mission in Khartoum. As it turned out, the DAI team leader was unavailable to attend most of the HIID briefing and the AID Director was not in Khartoum to brief the team on their way to Abyei.

The absence of any mention of terms of reference in the DAI evaluation report suggests that the team was not given any in written form, and even their oral guidance is not very clear from the report. They state that:

> "This evaluation was designed to provide analysis and recommendations for decisionmaking by AID and the Government of Sudan on the status of the Abyei Development Project beyond June 1981. The 'experimental' nature of the project and the management arrangements that were used helped to define the evaluation task...The evaluation team acknowledged that the two elements (research and action) are interwoven in the ADP and that this poses certain contradictions in assessing project achievements. The evaluation team determined, however, that research activities should be evaluated in terms specific to the projects structure, setting and objectives. This is the only objective basis for assessing the magnitude and significance of what has been learned.
>
> Since no logical framework was ever completed and almost no quantifiable outputs were formally agreed to by HIID and AID, progress towards objectives required thorough qualitative assessment." (DAI Evaluation Report P.5)

As regards the analysis and recommendations for decisionmaking, the evaluation team suggested four options:

Termination of the project as of June 1981;

Extension of the existing project for one or two years, thereby deferring a decision on Phase II;

Extension of the existing project with a firm commitment and schedule for Phase II; or

Support of a redesigned project with a pre-implementation phase under a new contractor.

They concluded that:

> "The demonstrated shortcomings in evidence under the existing project lead the evaluation team to advise rejection of the second and third alternatives. The difficulties likely to be encountered in a search for a substitute contractor and the political uncertainties and insecurity manifest in the area lead us to recommend the termination of the effort."

As regards overall performance of the project, they concluded:

> "The achievements of the Abyei Development Project fall seriously short of the objectives expressed in the original and amended project documents....Tangible results are evident in the areas of health and building construction and in the experiments related to local agricultural conditions. However, these results seem relatively insignificant in content and haphazard in scope in relation to the expressed goal of integrated development assistance....the projects research results have been disappointing in terms of quantity and quality.(DAI Report,P.1)

A fundamental defect of the DAI evaluation was that the DAI team members did not attend the HIID briefing in Cambridge on the Abyei research program to which they were invited in early January. As the principal HIID researchers had all recently returned from the field and had not yet written up their results, the information was available at the time (January, 1981) only in preliminary and oral form. It was useless for the evaluation team to try to collect information in Abyei on the design, implementation and results of the research program. That should have been done in Cambridge. To then express such sweeping judgements of the quality of the research was irresponsible. The attachments to this report may help to set the record straight.

In terms of the physical accomplishments of the project, it is difficult for those who visit Abyei only once and then briefly during the dry season to appreciate what has been accomplished and against what odds. Those who made the trip more often had a more realistic perspective. But the greater irony is that the project had completed the testing of a number of techniques and designs and was ready to move ahead with a substantially expanded program in well drilling, construction, grain storage and grinding, and

extension of agricultural trials. These activities were curtailed somewhat in early 1981 by both funding delays and political insecurity in the area, but they were subsequently largely brought to a halt by DAI's recommendation and AID's decision to terminate support for the project.

A comparison of DAI's and HIID's views on purpose achievement of the project is presented in the following table and needs little further comment. Support for HIID's position is presented throughout this report and its attachments.

There are, however, a number of serious misrepresentations of fact in the DAI report that should be corrected.

1. The report states (p. 15) "there is no formal statement of the ADP's purpose to which HIID, USAID and the GOS officially subscribe."

   Fact: The Memorandum of Understanding between the Government of Sudan and Harvard University was signed by representatives of the two bodies in March, 1978. It was reviewed and approved by the USAID Director and was included as part of the documentation on the basis of which AID made its grant to Harvard.

2. The report states (p. 24) too many key operational decisions were made outside of the field setting.

   Fact: Operational decisions were made in the field as discussed in Section 3. The project coordinator made semiannual visits to the field to participate in the decisionmaking and then sought to support those decisions. The only exception to this was when technicians were heading out to the field and had to decide in consultation with the project coordinator and, if possible, the project director what kind of equipment to take with them.

3. The report states (p.25), "shortage of HIID institutional expertise produced a flawed (project) design that grossly underestimated the significance of the livestock sector."

   Fact: The initial project design team contained a specialist on the cultural aspects of livestock (Huntington) who was acutely aware of the importance of livestock in the Ngok culture, and wrote about it in the January 1977 preliminary plan. It was due to the fact that the Ngok spokesmen in January 1977 did not include livestock in their list of areas in which they wished assistance that it was not designated as an initial area of project activity. The initial plan (January, 1977) did call for a range management

TABLE 3

ASSESSMENTS OF PURPOSE ACHIEVEMENT

Purpose or Output Measures	DAI Assessment of Status as of Jan. 1981	HIID Assessment of Status as of Jan. 1981
1. Improved technologies for crop production and storage. (Improved agricultural technologies developed for crop production.)	1. No breakthroughs and no systematic comparisons made; results to date impressionistic.	1. Have identified the constraints of traditional cropping technology, the limitations of tractor and draft animal tillage, and the potential of a new zero tillage technology. Existing grain storage practices are satisfactor
2. Improved water supply. (Improved water supply facilities developed.)	2. No new water points yet in operation; serious problems with technologies tested to date. One test well operational 2/81.	2. Several drilling technologies tested. Manually operated rig proven capable of drilling to needed depth of 180 feet. Plastic pumps not yet operational. Alternative pumps on order that can be substituted if plastic pumps fail.
3. Improved medical facilities and services. (Improved medical facilities and services developed.)	3. Minor improvement in physical facilities; services temporarily augmented by HIID health advisor who departed 1/81.	3. Training programs of mid-wives and hospital staff completed. Curriculum for training village health workers developed and tested. Several surveys of health status completed. Minor repairs made to hospital.
4. Experimental cooperative farms established.	4. Four group farms receiving subsidized tractor services with little experimentation introduced by project.	4. Four group farms established. Two functioning well, two poorly. Main reasons for differences identified. Production on good group farms augmented household grain supply by one third. Future of group farms tied to cropping technology choices.
5. Low cost, locally adapted building technologies developed.	5. Cost data not compiled or analyzed for comparative purposes; techniques have been adapted to conditions and appear sound.	5. New building designs seem well adapted to local environment and popular with local residents. Brickmaking hampered by inappropriate soils and poor management. Local construction workers proving very trainable.

TABLE 3 (Cont...)

Purpose or Output Measures	DAI Assessment of Status as of Jan. 1981	HIID Assessment of Status as of Jan.1981
6. Local development organization organized and operating. (Local development organization established and operating.)	6. None in existence and no proposals developed.	6. Project functioning effectively as direct activity of Ministry of Agriculture with good working relations with local community. Political differences have precluded working out suitable permanent arrangements.
7. Inservice and formal training programs developed.	7. On-the-job training system functions for project employees, but with no significant outreach.	7. Over 100 people from local area trained through on the job programs and special inservice health courses. No progress on formal training through schools.
8. Administrative links developed to sustain IRD activities. (Administrative links with province and district strengthened.)	8. Total absence of support to project except from national level.	8. Links with national government through Ministry of Agriculture well established as are links with local community leaders. Links with provincial and district officials poor to non-existent.
9. Evaluation and monitoring system capable of monitoring and modifying IRD activities developed. (Monitoring and evaluation system in place to guide ongoing IRD activities.)	9. Structure of system poorly defined; decisionmaking roles unclear; data collection and analysis functions not responsive to project needs.	9. Project activities have been evaluated and adjusted substantially over life of project in response to new information and popular reaction. Much field research and cost data still awaiting consolidation and analysis.
10. Improved transportation and communication links.	10. No change in transport situation except improved airstrip; logistical support and radio system operating reliably.	10. Radio system provides highly effective contact with key towns. Airstrip improved to handle regular AID plane. Dry season road is sufficient for local economy needs.

Notes: a) Purpose or output measures are the ones agreed upon at the DAI-HIID meeting on Saturday, January 10, 1981 in Cambridge. Those in parentheses are unilaterally revised purpose statements included in the DAI evaluation report. Most changes are minor, but number 8 is not.

b) The DAI assessment of status is from their draft evaluation report of February 2, 1981.

survey by the Ministry of Agriculture, but this was not carried out. In November 1978, in the joint planning sessions in Abyei on the 1979 program, HIID proposed the livestock survey. It was agreed to by the Sudanese counterparts, including local Dinka representatives, at that time, and was implemented in 1980-1981, resulting in the voluminous report in Attachment B. As the DAI report states (p. 25)

"Project designers must carefully weigh the timing and sequencing of multiple components in an IRD project."

4. "The sponsoring institution undertaking an 'action research' project must accept the full burden of implementation support. HIID never formally accepted that burden: it did not undertake similar projects elsewhere, nor did it make a long-term investment to develop in-house capabilities in logistics or personnel recruitment. The ADP has remained a peripheral activity, and only the energy and dedication of the project coordinator have maintained support at a survival level." (p. 26)

Fact: HIID in 1976 accepted the report of its Rural Development Group including proposals to become involved in field level interdisciplinary action projects. In 1978 HIID did take up two such projects, one concerned with rural health delivery systems in Mali, and the other, the Abyei project in the Sudan. HIID made special efforts to locate appropriate staff for these projects and worked out special logistic arrangements with the Harvard Procurement Office and local shippers. The fact that not all personnel or logistic arrangements have worked out to perfection is not due to lack of commitment. HIID has not taken on any additional projects of this type until there was an opportunity to evaluate HIID's capacity to implement, and the educational benefit from implementing such projects.

5. The report states (p. B-3) "the inclusion of animal traction activities in the project appears to have resulted from the assignment of an animal traction specialist, Craig Wynn, as HIID's first acting team leader."

Fact: The project paper, drafted by HIID in October, 1977, well before initiation of any selection of project staff, contains the following statement. "Under this project it is proposed to test alternative techniques of land preparation....These would include various types of implements for the tractors....They would also include draft animals and plows (if the cultural barriers to use of cattle for such purposes do not appear to be over-riding)."

Subsequently Craig Wynn was selected as a team member in large part because he was experienced in the training and use of draft animals. His experiments with draft animals in Abyei demonstrated that there was strong opposition from many of the local residents to such use of cattle. And Fuller's experiment with mechanized farming, using tractors, demonstrated that such techniques produced very little if any benefit at much cost in the Abyei environment.

6. The report states (p. I-7): "The decision to purchase the airboat was quickly taken in early 1979,...little time was given to examining alternative modes. While Unimogs, Hovercraft and airboats are all reportedly used in the Sudan, the Harvard team did not witness an actual demonstration....It has subsequently been found that the local people build small dams(bunds) or fish traps (weirs) on nearby watercourses which would have limited the airboats usefulness had it been operable on arrival. The airboat saga is one of inexperience and misfortune. Nevertheless it is also an example of how action research should not be conducted."

The facts are: That information on alternative modes of rainy season transportation was collected throughout 1978, brought to Abyei in November, discussed with the field team and with the AID Director and staff in Khartoum in December, and as a result of all these discussions, the decision was made in the AID Director's presence to go ahead with the airboat as the most promising alternative. This decision was incorporated in the January, 1979 proposed amendment to the project which was reviewed, discussed and approved in AID/Washington in March by the project committee, at which time the airboat choice was considered at some length. It was only after all this that the airboat was purchased.

Previously, when consulted by Harvard, the Director of the Nuba Mountain Agricultrual Production Corporation in Kadugli had advised that,on the basis of his extensive field experience, the Unimogs would not operate successfully in the Abyei area during the rainy season. Similarly the British suppliers of hovercraft that had been tested in the Malakal area informed Harvard that their existing small craft (4 passengers) had a tendency to get stuck on waterhyacinth and they were developing a new model with a more powerful engine that would not be available for 6 to 12 months. Several other military type vehicles were considered and rejected because they were either

too expensive, too experimental or no longer available. The airboat was selected after extensive discussions with organizations that had used them in various parts of the world including the Sudan. They were a well established means of water transport with a long record of use that seemed best suited to navigating the shallow, grass filled waterways around Abyei. The airboat was envisaged more as a means of exploring the potential for rainy season water travel by less costly conveyances than as a permanent means of transportation itself.

The bunds and weirs are built only at the end of the rainy season to catch the fish as they move down stream with the receeding waters. If the bunds fully blocked the waterways throughout the rainy season they would prevent the movement of fish upstream from the permanent watercourses where they live during the dry season. The weirs are built with sorghum stalks which are only available after the first harvest which occurs in about the fourth month of the rainy season. Thus the bunds and weirs would not, and did not, in fact, obstruct the movement of the airboat in the middle of the rainy season. This DAI assessment is typical of the dry season visitor's misreading of rainy season conditions.

DAI has been quick to draw "lessons" from the "failures" of the Abyei project. In a recent DAI "Research Note" entitled "Implementation Issues in Integrated Rural Development: A Review of 21 USAID Projects," the Abyei project is cited as exemplifying failure in seven of the nine critical implementation problems that DAI has identified as plaguing integrated rural development projects around the world. Setting aside the question of the validity of this sort of "research" based on brief field visits by "researchers" with pre-conceived lists of implementation problems, the implication of their analysis is that if these problems had just been dealt with more effectively in Abyei, the project would have been a success.

All of the problem areas that they identified did in fact exist in connection with the Abyei project, and they were all perceived as problems early in the design and implementation process. But recognizing a problem, such as differing project agendas of different parties, does not mean that it is readily resolvable. Sometimes the magnitude of a problem can be reduced through various modifications

of a project. Sometimes it just has to be lived with. It is a question of trade-offs between competing, important objectives.

All such projects have to be viewed in their particular context and the most appropriate design and implementation worked out for that context. It seems easy for some evaluators to say after the fact that more of this and less of that should have been done. But if they fail to take sufficient account of the context and the constraints under which a specific project is operating, then their assessment of that project, or their suggestions for how to redesign it, are worse than useless, they are positively harmful, for they imply that there are simple solutions to complicated problems. And if the Abyei experience, as recorded in this report and its attachments, teaches us anything, it is that the problems of rural development are complicated.

The fundamental message, that emerges from both the DAI evaluation of the Abyei project and so-called research notes on implementation issues, is that DAI and HIID have very different philosophies about how small-farmer-oriented development must be approached in rural Africa. The use of similar terms such as "process" and "action-research" and the similar focus on the traditional sector hide these fundamental differences. Almost all of DAI's suggestions as to what "should have been done" call for significant increases in inputs and personnel. While we grant that this would have helped in some aspects of the project (but not all) and we concur that the project was under-funded and repeatedly tardily funded, we maintain as a central tenet that the kinds of human resources (ex-patriot, natural and local) required are in international short supply. Rural development that continues to be predicated on a large measure of scarce inputs cannot in any broad or long-term sense take place. The approach favored by DAI is to play safe with rural development, to be overly-scientific with research, and more management-oriented with the operations. Such an approach is understandably welcomed by harried donor agencies because it serves to channel more money into rural development at less risk, but there is so far no evidence that this leads to a solution of the great problems facing much of rural Africa.

9. Conclusion

The original objective of this first phase of the Abyei project - to lay the foundations for a longer term development program for that and similar areas - has been only partially achieved. On the positive side, a base station has been built which, as of April, 1981, contained the support facilities needed to carry on and expand the project. The information base already accumulated is sufficient to plan operational programs in agriculture, animal husbandry, water supply, manufacturing, construction and health services, and also to identify aspects of those activities where further testing and experimentation are called for. The senior Sudanese staff members have gained two to three years of experience in the management of such a project, and over one hundred workers have been trained in all areas of project operations.

But this phase has also highlighted the many problems that must be dealt with when attempting to carry out a development project in that area. Some of these, such as logistics and communication, have been solved. Others remain. They include: the restoration of peace and order in the project area; agreement on a set of relationships with the various levels of government that will be workable, constant and supportive of local development activities; provision of adequate incentives to attract and retain competent people in such remote areas; and finally the provision of timely and sufficient funding to permit project activities to respond to seasonal imperatives.

If assessed in purely political terms, the Abyei project has probably failed in the sense that there has been no improvement, and perhaps a worsening of relations between Abyei and the provincial authorities, and of intertribal strife in the area. On the other hand, project activities may have generated some awareness of the potentials for development among the peoples of South Kordofan and Northern Bahr El Ghazal that will generate political pressure for accomodation and stability so that they can get on with their development. To have expected any more substantial political benefits from the project in the short term was probably unrealistic.

If, however, the assessment is more in economic terms, the approach followed in the Abyei project has been successful in that it accomplished much at very low cost. It produced information as well as some infrastructure that was relevant to the problems of development in that area, and it provided both a model and set of developmental activities that could be replicated in other

areas. The emphasis on efficiency and cost-effectiveness could make possible the extension of such projects to many more areas than could be reached by the typical capital-, infrastructure-, technician-, and management-intensive rural development project. If the human and financial resources that are likely to be committed to rural development in the Sudan and more broadly across Africa are indeed limited, then the approach of the Abyei project may be worthy of further consideration.

LIST OF PERSONNEL
1976-1981

LONG TERM STAFF	Role in Abyei Project	Current or Previous Position	Period of Participation
A. HIID			
David C. Cole	Coordinator	Coordinator for Rural Development HIID Harvard University	Nov. 1976- Sep.1981
Richard Huntington	Research Director/Khartoum Liaison	Associate Professor, Harvard University	Jan. 1977- Sep. 198
Craig Wynn	Agriculture Specialist	FAO Project, Ethiopia	Mar. 1978- Feb. 198
Stephan Gulick	Training Specialist	Peace Corps, Philippines	Mar. 1978- Mar. 197
Dana Larson, M.D.	Health Specialist	Private Practice	May 1978- May 1979
Richard W. Fuller	Project Co-Director/Agriculture Specialist	Irrigation Agronomist, Government of Ethiopia	Mar. 1979- Aug. 198
Joseph G. Sharp	Construction Specialist	Acting Deputy Director, CARE, Inc., Bangladesh	Oct. 1979- May 1981
William James Donovan	Training Specialist	Industrial Arts Teacher U.S. Peace Corps, Tonga	Dec. 1979- June 1981
Ann Hershey Byerly	Health Specialist	Staff Nurse, Children's Hospital, New Orleans	Dec. 1979- Feb. 1981
Maryam Niamir	Livestock Research	Graduate, City & Regional Planning, Harvard University	Feb. 1980- Aug. 1981
E. James Ackroyd	Village Economy Research	Bachelor Degree Candidate Harvard College	Mar. 1980- Jan.1981
B. SUDAN GOVERNMENT			
Seddiq Abdalla Abdul Aziz	Project Co-Director/Agriculturalist	Savannah Project, Phase I & II Ministry of Agriculture	Mar. 1978 -
Kuol Arob Kuol	Deputy Director/Agriculturalist	Mechanized Farming Corporation Habila, So. Regional Ministry of Agriculture	June 1978 -

LONG TERM STAFF (Cont.)	Role in Abyei Project	Current or Previous Position	Period of Participation
Bagat Minyan Chan	Financial Officer	Sudan Commercial Bank	May, 1978-May 1980
Mariano Awet Ayong	Training Officer	Occupational Safety Officer Ministry of Health	April, 1978-
Aquek Ngor Kual	Livestock Officer	Graduate, Institute of Veterinary Studies, Khartoum	Jan. 1979-
Salvatore Atem	Health Officer	Health Assistant Ministry of Health	Mar. 1979-
Abdel Nasser Dau Alei	Community Development Officer	Dept. of Community Development Ministry of Social Affairs.	April 1978-
Fathei El Sedig Jamil	Forestry Officer/Logistics	Forestry Officer, Savannah Project. Ministry of Agriculture	April 1978-
CONSULTANTS AND SHORT TERM STAFF			
Lester E. Gordon	First Project Design Team	Director of HIID	May 1976
Stephan B. Joseph	First Project Design Team	Director of International Health Programs Harvard School of Public Health	May 1976
Richard A. Cash	Health Program Adviser	H.I.I.D Fellow Harvard University	Jan. 1977 Feb. 1978
John Villaume	Second Project Design Team	Graduate Student Harvard University	Jan. 1977-June 1978
David Sharry	Anthropologist on Base Line	Graduate Student Harvard University	June 1977-May 1978
Marian Zeitlin	Nutrition Survey	Researcher HIID, Harvard University	Nov.-Dec. 1977

CONSULTANTS AND SHORT TERM STAFF (Cont.)	Role in Abyei Project	Current or Previous Position	Period of Participation
Lina Fruzzetti	Consultant on Socio-Economic Survey	Assistant Professor Brown University	Nov. 1977-April 197
David J. Vail	Agricultural Economics	Associate Professor & Chairperson, Dept. of Economics, Bowdoin College	Oct.-Nov. 1978 Jan. 1980
Peter Parr	Construction Specialist		Oct.-Dec. 1978 Mar.-May 1979
John Cohen	Project Review and Design	H.I.I.D Fellow Harvard University	Dec. 1978-June 1979
Jonathan Fischer	Health and Construction Specialist	Researcher. H.I.I.D Harvard University	May-June, 1979
Keith J. Brodie	Airboat Operator/Trainer	Aeronautical Engineering Degree Candidate, Mass. Institute of Technology	June-Aug. 1979 May-Aug. 1980
Bruce Eaton	Water Well Driller	Chief Drilling Supervisor Operation Waterhole, Zaire	Oct. 1979-Jan. 1980 Dec. 1980-Mar. 1981
W.J.A. Payne	Livestock Consultant	Consultant to U.N.D.P. F.A.O., I.B.R.D.,I.B.D., Huntings Technical Services	Jan. 1980 Nov.-Dec. 1980
Jane Jedd Hayes	Geographer	Candidate, Clark University Graduate School of Geography	Feb.-May, 1980
William R. Claybaugh	Water Well Driller	Peace Corps Volunteer, Site Supervisor, Kairouan Wells Project, Tunisia	Mar.-May 1980
David H.P. Maybury-Lewis	Consultant on Research Activities	Chairman, Dept. of Anthropology Harvard University	May, 1980
John W. Thomas	Consultant on Local Organization	H.I.I.D. Fellow Harvard University	May 1980

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