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BLUE NILE INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT

ANALYSIS OF THE SHEIL CONTRACTING SYSTEM THAT EXISTS IN THE BLUE NILE PROJECT AREA

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P R E F A C E

The sheil contract system is the credit system that provides both production and consumption credit to Blue Nile Project area farmers. The information contained in this report was obtained in accordance with the research mechodology specified under the Methodology section and in the memorandum to Dr. Filmore Bender dated January 16, 1982 (Annex A). The information collected for and presented in this report follows closely the research outline as specified in the "Sheil System Proposal, Consultant's Scope of Work" (Annex B). The "Consultant's Scope of Work" was developed, as detailed in the following Methodology section at the behest of Mr. Clyde Adams, E.I. Chief of Party and Dr. Filmore Bender, E.I. Consulting Agricultural Economist, University of Maryland.

The original intent of Annex B was to provide an independent Sudanese consulting firm with a research outline in order to generate the information required by the Credit and Cooperatives Section of the Blue Nile Project. Events soon indicated that the independent Sudanese consultant was not a viable option for the Blue Nile Project. Although agricultural credit systems are not the authors' speciality, we then volunteered to implement Annex B to the best of our abilities. This report embodies the detailed information gathered over a total of fourteen days in the project area.

AN ANALYSIS OF THE SHEIL CONTRACTING SYSTEM THAT EXISTS IN THE BLUE NILE PROJECT AREA

Introduction

The objective of this paper is to provide the Blue Nile Project with essential information on and comprehension of the sheil contracting system in the project area. Information concerning sheil system is important to the Blue Nile Project for two reasons: (1) sheil is the existing delivery system for agricultural credit in the project area and (2) the Blue Nile Project intends to establish an alternative cooperative credit system in the project area. A comprehensive understanding of the existing credit delivery system is considered essential to the formation of Blue Nile Project credit cooperatives. This opinion is shared by Mr. Clyde Adams, Mr. John Butts, Drs. Bender and Fruzzetti and the authors. A comprehensive understanding of the existing credit delivery system in the project area will allow the credit specialist to tailor the Blue Nile Project credit cooperatives for specific needs and local conditions.

Methodology

As stated in the introduction, the objective of this paper is to provide the Blue Nile Project with essential information concerning the sheil system in the project area. The objective was accomplished through implementation of the scope of work in conjunction with the research methodology discussed below and detailed in Annexes B and A, respectively.

The scope and plan of research was developed through a synthesis of a previous research outline prepared by Dr. Bender and the information requirements of the Cooperatives Section as provided by Mr. John Butts, Credit and Cooperatives Specialist, Blue Nile Project.

Methodology for the sheil study was developed through extensive discussion with Dr. Filmore Bender and Clyde Adams. The methodology developed and subsequently implemented, centered around informal discussions with the appropriate sheil merchants and farmers in the project area. The rationale behind this methodology was based on two major assumptions.

First, and most importantly, we assumed that the sheil system would be a sensitive topic among the merchants. The methodology stressed that through information discussions, information concerning forward contracting, cash-rent and share cropping agreements that exist in the United States would elicit from the sheil merchants reciprocal information vis-à-vis the sheil system.

By and large, this approach worked quite well. Merchants in the Abu Gemai area, after two or three informal discussions, became very candid, to a point, about the mechanics of the sheil system. The major sheil merchant in the Kharen-Kharen area was less candid and more evasive than the men in Abu Gemai; however, useful information was gathered.

Farmers that we interviewed were very open and volunteered information concerning all aspects of the sheil system. The difficulty in eliciting information from the farmers arose in couching the questions in the proper terms to insure comprehension, then cross-examination of the response to reveal whether or not the response was accurate.

Problems in translation arose with some project area farmers. Many of the farmers interviewed, especially in the Kharen-Kharen area, speak little, if any, Arabic. Thus, the questions were posed in English, translated into Arabic, then translated into the local dialect by a Kharen-Kharen school teacher who speaks both Arabic and the local dialects.

The second assumption behind the methodology was that all parties to the decision-making process felt that the people of the project area had become weary of formal interviews. We

had received this feedback from project area farmers and decided that informal discussions would be more productive than using a formal questionnaire.

Sixty farmers were interviewed in this study. Following Dr. Bender's instructions and the informal discussion atmosphere, written records of the first interviews were not kept. The concensus of opinion in January, 1982 was that pad and pen would intimidate the sheil merchants and farmers. Thus, note taking was restricted. As the authors gained knowledge of the sheil contracting system and the various players' attitudes, written notes of the interviews were kept. A total of 32 farmers interviewed were recorded by taking notes during the discussions.

The analytical methodology of the paper was developed in conjunction with the approval of Dr. Filmore Bender. After completion of the field research, the authors sent, as agreed upon in January, 1982, a draft report to Dr. Bender for his review and comment. The authors received Dr. Bender's comments during the second week of June, 1982 and have incorporated them into this report.

Sheil System Mechanics

The primary sheil contractors in the majority of the Blue Nile Project area, including Abu Gemai, are Abu Gemai's leading merchant and his son. A secondary merchant and sheil contractor also operates in the Abu Gemai area. When the secondary merchant was asked about his operations relative to those of the leading merchant, the secondary merchant replied, "I am but one small man; he is a great company!"

Another merchant who lives in Roseires, places sheil contracts in the Abu Gemai area, apparently only to the more well-to-do farmers. Although we repeatedly asked the identity of this Roseires merchant, he remains anonymous. The farmer who

reported doing business with this merchant maintains that he travels to Roseires to arrange his contract.

In the Kharen-Kharen area, there are two dominant sheil merchants. "Mohammad" is the richest and dominant merchant in the Kharen-Kharen area. The secondary merchant, "Amin", married a sister of Mohammad's", who then established "Amin" in business. From our discussions and observations, "Mohammed" appears to be the dominant merchant/sheil contractor in the Kharen-Kharen area, extending up to the village of Musfa. When a farmer is refused credit by "Mohammad", for whatever reason, the farmer then goes to "Amin"; however, the structure and terms of the two merchant's sheil agreements are identical. No preference between the two sheil contractors was espoused by any of the farmers interviewed.

The range and scope of Abu Gemai's leading merchant and son's sheil operation are very impressive. They personally dominate the credit market in Abu Gemai, Dan-Dan, Dan-Dan Azaza, Esseil and villages along Khor Uffat, up to the village of Musfa.

Through relationships of marriage and subsequent grubs-takes into business, these men also control the sheil market in Abu Shenina, Shaiara and Bikori. This leading merchant also established the primary merchant/sheil contractor in Singa Nabak when the man married one of the leading merchant's daughters. Thus, the leading merchant of Abu Gemai either directly or indirectly controls, through relatives, the lion's share of the sheil market in the project area. The virtually identical contract structure and terms of all the merchants in the project area may indicate the leading presence of Abu Gemai's number one merchant and his son. In an attempt to determine the extent of Abu Gemai's number one merchant's operations, we asked if the farmers in Abu Gemai borrowed a great deal of money. Roaring with laughter, the merchant

replied, "No, no. These people here are small potatoes. When I travel to Ingessana (Hills), I loan the men up to 1,500 pounds at a time." Clearly, this man is the dominant merchant and sheil contractor in the project area. By way of comparison, Abu Gemai's secondary merchant reports that in any one given crop year, he may loan money to fifty farmers at twenty pounds per farmer. Compared to this total of one thousand pounds, Abu Gemai's leading merchant is able to loan that much, if not more, to one man at any given time.

Of the sixty farmers interviewed, all but one reported borrowing money and consumption goods from the sheil merchants previously detailed. The one exception lives in the Kharen-Kharen area. Apparently this man, although he farms approximately five feddans of sorghum, earns his living by gold panning. The presence of gold in the khors around Kharen-Kharen is a significant, if not major, source of income for the local farmers. Farmers interviewed in Kharen-Kharen reported borrowing less money and more infrequently than the farmers in the Abu Gemai and Esseil area. (Please refer to tables 1.0 or 2.0) The Kharen-Kharen group reported borrowing money and consumption goods two or three years out of five, with a total loan value ranging between fifty and ninety Sudanese pounds. This compares favorably to four or five years out of five with a loan value of between fifty and two hundred pounds for Abu Gemai area farmers. The difference between small, medium and large scale farmers appears both in the repayment terms and loan composition; that is, consumption credit mixed with production credit. Small farmers, those with up to ten feddans, rely heavily on the sheil system primarily for consumption credit with production credit (in the form of seed) in a secondary position. For example, a small farmer who farms 10 feddans will have five feddans in sim-sim, leaving five feddans to dura. Given a yield of 2.5 sacks of dura per feddan, the farmer gets 12.5 sacks, or 1,125 kgs. of dura. Spread over 365 days,

the yield is 3.08 kgs. of dura per day per family. Given a family size of eight, as indicated by Drs. Bender and Fruzzetti, this allows for .385 kg. of dura per person per day. According to knowledgeable Sudanese, daily per capita dura consumption is closer to 1.5 pounds, or .68 kgs. This comes to 5.4 kgs. of dura per day for a family of eight. Given these conditions, 1,125 kgs. will last 208 days, leaving a deficit of 157 days, or about five months, the time farmers require sheil in May and June and the harvest begins in October. These small farmers, who rely heavily on the sheil system for consumption credit, receive the worst repayment terms. (Please see page 7). Farmers who operate farms between ten and twenty feddans receive more favorable repayment terms, although loan size is roughly equal to that of the small farmer and is equally mixed between production and consumption. Those farmers who farm more than twenty feddans receive the best terms and the credit is used primarily for production purposes. This usually takes the form of cash payments to seasonal laborers.

Sheil contracts are typically initiated in May. This is the beginning of the planting season and corresponds with the time most small farmers have exhausted their stocks of sorghum. Medium and large scale farmers generally borrow during June or July, depending on how long their grain stocks hold. The sheil contracts are verbal, and the terms, once agreed to, do not change through the duration of the contract. Loans are repaid at harvest time in the months of October and November. Sheil contracts are negotiated against the sesame crop. Although a few farmers repay the contract in cash earned either by the sale of goats or through contract labor on other farms which nets them between fifty and seventy five piasters per day, repayment primarily is in the form of sesame. In other words, payment in cash raised by these methods is rare. The contract is repaid when the farmer delivers the agreed-upon amount of threshed sesame to the merchant. Here again, the Kharen-Kharen

area farmers are the exception. Kharen-Kharen area farmers typically repay their contracts in cash. This appears to be due largely to the availability of gold in the khors. A few Kharen-Kharen farmers reported contract repayment in the form of farm labor in the sheil merchant's fields. The farmers reported being paid thirty piasters per day (without food and drink) under this kind of an agreement.

Consumption contracts are typically advanced in kind, although this depends on the bargaining position of the farmer and type of sheil contract used by the sheil merchant. Consumption items advanced include sorghum flour, sugar, salt, tea, coffee, onions, dried tomatoes, spices, soap and general merchandise available in the merchant's store. The composition and size of an individual contract depends on the farmer's relative wealth, size of his family, sesame field and individual tastes and preferences.

Production credit is typically advanced in seeds and cash to pay for farm labor. Small farmers are the primary recipients of credit in the form of seed, while larger farmers receive cash to pay contract labor. Both consumption and production credit, if required by the farmer, are negotiated simultaneously under one contract. Credit demand can vary with regard to social functions such as marriages, births and deaths. These events require the host to provide dissra, a type of sorghum and okra gruel, and marissa, a homemade sorghum beer.

Nafir, a type of cooperative labor agreement used by area farmers for home building and general farm activities again requires the host to provide kissra and marissa for the people of the nafir.

The structure and terms of sheil contracts negotiated in the project area are virtually identical with the type of contract employed by Abu Gemai's lending merchant and his son. This merchant employs one basic system that has two primary

variations, relating to the economic position of the individual farmer. The dividing criterion of these variation is quite simple: one contract for those small farmers who require both seeds to plant and consumption items, and another for those small farmers who require only consumption credit.

When the farmer requires production (seeds) and consumption credit, the merchant's negotiating position is quite strong and the farmer must agree to almost any terms. In this case, the repayment agreement typically ranges from between four and five Sudanese pounds per kantar of sesame (two kantar =1 sk. of 90 kgs.) Some farmers in this position pay for the seed with sheep and goats, then repay the consumption credit when the sesame is threshed and delivered to the merchant. Sheep and goats are valued at prevailing market rates.

The second variation occurs when the farmer requires only day-to-day consumption items. The merchant goes with the farmer to the sim-sim bildet (sesame field) to observe the crop and negotiate the sheil contract. The farmer is in a stronger position in this case and the repayment agreement will range between six to seven Sudanese pounds per kantar of sesame.

In both of this merchant's variations, the consumption credit is advanced in the form of goods rather than cash. The consumption goods advanced are those mentioned earlier in the paper. Depending upon the merchant's relationship with the farmer, the sheil price of these items can be higher than their cash price, thus giving the merchant another source of profit.

The leading merchant and his son appear to have divided the credit market in Abu Gemai. The merchant appears to extend credit to the smaller farmers and the less wealthy medium-sized farmers. His son extends credit to the wealthier medium and large farmers. This can be demonstrated by comparing each of their sheil contracts and the timing of each of their negotiations.

Project area farmers typically require credit around the planting time of May to June; the smaller farmers requiring it before the larger ones. Thus, his son leaves Abu Gemai for Damazin with the onset of the first showers, returning to Abu Gemai when his father has completed his sheil contract. Those farmers who can wait for the son to return before making a sheil contract are, clearly, able to wait, i.e., they have sufficient food stocks to do so. Larger stocks of dura directly imply larger fields. Three apparent reasons for the son's actions are:

1. not to compete with his father;
2. the differences between their types of contracts;
3. the different economic positions of the farmers to which the two men extent credit.

His son, who holds a high secondary school certificate and speaks English very well, employs a sheil contract that is similar to forward contracting. When the son returns to the Abu Gemai area, he inspects the farmers' sim-sim fields and loans the farmers a negotiated sum of money. He and the farmer agree that the contract will be paid at harvest time, in sesame, under the market price prevailing during the harvest period. Sesame typically harvested and threshed in October. It must be threshed and delivered to the son in Abu Gemai, although the son may loan the farmer sacks in which to transport the sim-sim.

This harvest season the prevailing sim-sim prices ranged between eleven and thirteen pounds per kantar. A month later, in November, the price reached twenty five pounds per kantar in Abu Gemai, thirty pounds per kantar in Damazin and thirty five pounds per kantar in Sennar.

Financial Risk and Returns

When asked their perception of risk every sheil merchant replied, "It is in the hands of Allah."

An examination of Abu Gemai's leading merchant's sheil contracts reveals that he bears a price risk. By specifying the price per kantar in May, he is counting on the price per kantar to be higher in November. This corresponds, in essence, to a "buy" position in a commodity futures market. This price risk in hedged by one fact, however, he owns and operates a sim-sim press, as do all merchants in the project area.

For example, one sack of sim-sim bought at the negotiated sheil price of five pounds per kantar costs the merchant ten pounds. A sack of sesame will yield two four-gallon tins (safiha) of oil plus the cake residue. One four gallon tin of oil (zeit sim-sim) will sell for approximately twenty seven pounds at harvest time. One sack of sesame cake can be sold to the nomads for approximately eight pounds. Thus, one sack of sim-sim purchased through this example cost ten pounds, yielding a gross revenue of sixty two pounds. Currently, a four gallon tin of zeit sim-sim ranges between thirty five and thirty six Sudanese pounds.

Yield risk is assumed by the sheil merchant. If the sim-sim crop fails, the loan is carried over to the next crop year under the original terms with no additional charges. If partial crop failure occurs, the farmer will raise cash through the sale of goats and sheep or by off-farm labor. Contract delinquency and default appear to be very alien concepts to both sheil merchants and farmers. When queried on the subject, sheil merchants reply that all is "in the hands of Allah". Farmers will explain that the contract is carried over to the next year or that they may sell goats and sheep or work as contract laborers. Both sheil merchants and farmers are aware of inflation, but are not able to explain its impact on the sheil contract terms.

The sheil merchant determines the credit worthiness of the farmer by his personal knowledge of that specific individual. Both merchants and farmers have lived in the project area for generations. The communities are small by Western standards and

personal habits and proclivities of an individual are well known by the other villagers. Some farmers in the area who are known to be poor or indifferent farmers are refused credit by the sheil merchants.

Sheil contracts are secured by the sim-sim crop. Land is a common property resource whose title is held by the Sudanese government. To evict a family from its home is considered uncivilized and, in any event, what could the merchant do with the dwelling? There is no apparent resale or rental market for shelter in the project area. Thus, sheil contracts are secured by intimate knowledge of the farmer and a handshake.

Contract size is determined by the size and quality of the farmer's sim-sim bildet and the farmer's ability and motivation as a farmer, as appraised by the sheil merchant. A secondary consideration is the food requirement of the farmer and his family need to survive until harvest time.

Going back to the example cited earlier in the paper, a sack of sim-sim under Abu Gemai's leading merchant's contract costs ten Sudanese pounds. (Please refer to tables 3.0, 3.1 & 3.2). When pressed into oil and cake, then sold at prevailing market prices at harvest, the sack of sim-sim costs ten pounds and pressing costs for one sack are another ten pounds. This will yield a rate of return on a six-month investment of 210%. This example is based on the lowest contract price that the merchant pays for sim-sim. Using the price of twenty four pounds per sack that his son paid for sim-sim this year, yields a rate of return on a six-month investment of 82%. Thus, we see a rate of return range of between 210% and 82% for a six month investment. Clearly, significant income can be realized through the pressing of sim-sim and the marketing of the oil and cake.

One of the primary purposes of this paper is to provide the Credit and Cooperatives Section of the Blue Nile Project with a clear perception of the sheil system and a bench-mark

"interest rate" to guide the establishment of a credit cooperative in the Blue Nile Project area. To this end, we have estimated what we consider a proxy "interest rate" for sheil contracts. The logic behind the estimation is as follows: the leading merchant's son advances both production and consumption credit against the sim-sim crop valued at market prices prevailing at harvest time. After taking delivery of the threshed sim-sim, if he were to re-sell the product at a later date, the son would realize returns to storage and marketing. However, he processes the sim-sim to oil and cake, as do all other merchants. Thus, the son realizes the returns to processing, storage and marketing. His father realizes all of these returns as well as residual. This residual we believe represents the return to wealth. In other words, the difference between his relative income and the farmer's with he deals. Subtracting the son's return to the functions mentioned from his father's return yields a remainder of 128%. This remainder represents the return to wealth, the proxy interest rate. On an annualized basis, this represents a proxy interest rate of 256%. We would like to point out that this figure is only an estimation of a proxy interest rate and may include the return to other factors not identified by the research. One factor not included in this estimation is the impact of the difference between the sheil prices and cash prices of consumption items advanced. This was omitted for two very good reasons. Relatively few farmers reported actually paying this difference, and those who did could not remember the composition of the consumption items nor the prices paid for each commodity.

Prevailing Interest Rates for Commercial and Agricultural Banks in the Sudan:

The banking structure of the Sudan is composed of the Bank of Sudan, (the Central Bank), five state owned commercial banks, three specialized banks, (the Agricultural Bank, Industrial Bank and Estate Bank), two savings institutions and a small number of

foreign banks such as the City Bank and the Faisal Islamic Bank. The Ministry of Finance controls overall policy direction, using the Bank of Sudan to exercise compliance. The Bank of Sudan sets interest rates, total loan ceilings, overall loan policy and acts as a "Bankers Bank".

Commercial banks do make agricultural loans in the area of export internal trade. Loans for the exportation or internal movement of agricultural products are made after the crop has been harvested and range from between 14% and 15%. The commercial banks make no production loans. Production loans are the purview of the Agricultural Bank. The Faisal Islamic Bank is in the process of implementing various joint ventures and profit sharing proposals for agricultural production. Those joint ventures and profit sharing agreements of the Faisal Islamic Bank offers an array of profit sharing and joint venture arrangements because interest charges, as commonly known in the eastern world, are prescribed by the Koran. Last year, the Faisal Islamic Bank realized a rate of return on invested deposits ranging between 14.7% and 15.9%, depending upon the specific type of invesment pool. However, the Faisal Islamic Bank has no branches outside of Khartoum and the impact on small farmers in rural areas is seen to be minimal.

The Agricultural Bank makes agricultural loans of all types. Apart from the Khartoum head office, the Agricultural Bank has twenty two branches throughout Sudan and is planning thirteen new branches. The objective of the Agricultural Bank, as per Section 4 of the 1957 act establishing the bank is, "... the Bank shall provide facilities for the promotion and development of agriculture... by providing such facilities in cash, kind goods or services to persons who are primarily engaged in agriculture or its allied and subsidiary industries." Short-term loans, not to exceed fifteen months, are granted for production and marketing costs. Medium term loans of a maximum duration of five years are granted for the purchase of farm machinery,

equipment, livestock, irrigation equipment, repairing buildings or establishing businesses related or allied to agriculture. Long-term development loans are granted for the establishment of new agricultural schemes or the improvement of existing projects. All loans, short, medium and long term, carry 12% interest and can be subject to an additional 2% service charge for a total of 14%.

The applicant must submit a loan request onthe bank's standard loan request form with a listing of all property. Machinery, vehicles, livestock, crops and other tangible assets are accepted as collateral. Loan appraisal is conducted with regard to the applicant's personal reputation and his ability to repay the loan. The head office in Khartoum issues guidelines to the branches on the amount that may be granted per feddan for seasonal crop loans, based on the type of crop and cultivation practices. Similar regulations are set for medium-term loans. It is the responsibility of the loan inspector of the branch in whose territory the applicant's farm is located to verify and evaluate the loan application.

Observations

Sheil contracting can be a highly lucrative enterprise when coupled with the processing and marketing of sim-sim oil and cake. The sheil merchants in the Blue Nile Project area provide badly needed consumption items through the period when large numbers of area farmers have exhausted their food stocks. For this service, the merchants are well rewarded. Farmers, by contracting their sim-sim crop six months in advance, significantly reduce their potential income at harvest time in order to eat during the rainy season.

Table 4.0 illustrates the potential income available to the farmer from growing and pressing sim-sim. After deducting pressing costs, the sale of zeit and cake returns 104 Sudanese pounds. If he mortgages the sim-sim to Abu Gemai's leading

merchant or his son, the farmer will only receive 20 to 54 Sudanese pounds for his feddan of sim-sim.

Alleviating this situation will undoubtedly be a major goal of the Blue Nile project cooperative system and a rather involved and lengthy process. The extension of production and consumption credit to Blue Nile project area farmers at reasonable rates and the establishment of a cooperative processing and marketing board for sim-sim has the potential to generate significant income for cooperative members.

Table 1.0 - Abu Gemai Area Farmers

A	B	C	D	E	F
1	200	May	9	5	10
2	90	June	8	5	10
3	170	May	9	5	8
4	165	June	8	4	12
5	80	July	7	4	18
6	180	May	8	5	6
7	85	June	11	4	12
8	150	June	8	4	8
9	120	June	6	4	16
10	80	July	7	4	18
11	150	May	9	4	15
12	100	June	7	3	20
13	135	May	8	5	12
14	120	June	7	4	10
15	70	July	6	3	14
16	65	July	6	3	20
17	50	July	5	3	12
$\bar{X}$ =	118.24		7.59	4.06	13.0

Column Key:

A - Sample observation, n = 17

B - Amount of loan in Sudanese pounds

C - Month loan required

D - Family Size

E - Number of years out of five need loan

F - Size of farm in feddans

$\bar{X}$ - Mathematical average

Note: All information in tables 1.0 and 2.0 gathered from informal discussions with project area farmers.

Table 1.1

Month Loan Required	Frequency
May	5
June	7
July	5

Table 1.2

Number of Years Out of Five Loan Required	Frequency
3	4
4	8
5	5

Table 1.3

Amount of Loan	Frequency
$<$ £100	7
$\geq$ £100 $\leq$ £150	6
$>$ £150	4

Table 2.0 - Kharen-Kharen Area Farmers

A	B	C	D	E	F
1	50	July	7	2	8
2	65	July	6	3	10
3	80	June	8	3	10
4	75	July	7	2	8
5	90	June	10	3	7
6	55	July	5	2	12
7	65	July	6	2	9
8	50	July	8	4	12
9	85	June	8	3	8
10	70	June	11	2	15
11	60	June	9	2	11
12	55	June	6	3	13
13	85	July	8	4	9
14	65	June	7	3	10
15	70	June	8	2	15
$\overline{X}$ =	68.0		7.6	2.67	10.45

Column Key:

A - Sample observation, n=15

B - Amount of loan in Sudanese pounds

C - Month loan required

D - Family size

E - Number of years out of five loan required

F - Size of farm in feddans

Sheil Merchant's Returns to Sim-Sim Processing

Table 3.0 - Abu Gemai's Leading Merchant:

Cost of 1 sack of sim-sim	=	£10.00
Cost of pressing 1sack	=	£10.00
Total	=	£20.00
Eight gallons of zeit sim-sim @ £27.00 per 4 gallon tin	=	£ 54
Value of coke residue	=	£8.00
Total	=	£62.00
Minus sheil price and pressing costs	=	£20.00
Net revenue	=	£42.00

42 ÷ 20.00 x 100 = 210% Rate of return for 6 month investment

Table 3.1 - The Son of Abu Gemai's Leading Merchant

Cost of 1 sack of sim-sim	=	£24.00
Pressing costs	=	£10.00
Total	=	£34.00
Total gross revenue	=	£62.00
Net revenue	=	£28.00

28.00 ÷ 34.00 x 100 = 82% Rate of return for 6 month investment

Table 3.2

Father's rate of return	=	210%
Son's rate of return	=	82%
Difference	=	128%
Annualized Rate	=	256%

Table 4.0 - Potential Returns in Pressing Sim-Sim

Sim-sim yield per feddan	= 2.0 sacks
Zeit yield 4 tins (16 gals.)	
x £27.00 per tin	£108.00
Value of cake residue	= £ 16.00
Total gross revenue	= £124.00
Pressing costs	= £ 20.00
Net per feddan	= £104.00

A N N E X E S

ANNEX A

TO: Filmore Bender

FROM: Ken Eubanks

SUBJECT: Sheil Study Work Schedule/Methodology

DATE: 16 January 1982

Timing

The time required to complete the scope of work as outlined in the sheil proposal is estimated at two months. The study will be conducted by me and Awad Samil, Agricultural Economist, BNP/GOS. I will return to Damazin on January 21, 1982. The week of the 25th of January will be utilized in discussions with Awad Samil and John Butts coordinating Butts' information needs, sychronizing survey methods with Samil and arranging necessary logistics. Awad and I will travel to the project area February 1, 1982 for two weeks of field work.

In this two weeks, Awad and I will conduct the survey in Abu Gemai, Kharen-Kharen and one village cluster between Kharen-Kharen and Ilyas. We will return to Damazin during the week of the 13th. The time up to February 27th will be spent in writing the draft report and resupply. The first draft of the sheil report will spell out what we have learned to date and identify any problems encountered in the conduct of the survey and those areas of information still to be gathered. If further information remains to be gathered, Awad and I will return to the project area on March 1, 1982 returning to Damazin on/or about March 12, 1982. The final report will be written and submitted between March 15 and 26.

Methodology

The study will be conducted by informal discussions with project area lenders and borrowers. As the sheil system appears

to be a sensitive subject among the players involved, the survey discussions will be kept as low-key add informal as possible. The discussions will take the form of an informal exchange of information. I will begin discussions with the subject of whether or not the past cropping year was a good year. We will discuss with the sheil players the various forms of forward contracting, cash-rent, share cropping and price determination systems that have been and currently are in practice in the United States. Similarities and differences between U.S. systems and the Sudanese systems (Sheil) will be explored. In this fashion, information on the sheil system will be elicited from the interview. It is hoped that this method will provide the desired information without creating anxiety on the part of the interviewee, necessary to fulfill the outlined Scope of Work in the sheil proposal.

ANNEX B

Shiel System Proposal

Consultant's Scope of Work

A comprehensive understanding of the the shiel system in the Blue Nile Project area is essential to the establishment of viable Blue Nile Project credit cooperatives in the project area. Given current staff levels and work loads, E.I. requests that a short-term Sudanese consultant be contracted to conduct such a study. The study shall address the following points:

I. What are the actual mechanics of the shiel system?
   - A. Who are the lenders of sheil?
     1. local merchants?
     2. local merchants acting as agents?
     3. merchants in Damazin?
   - B. Who are the borrowers of sheil?
     1. small farmers? 0-5 feddans
     2. medium farmers? 5-10 feddans
     3. large farmers? 10-20 feddans
     4. very large farmers? more than 20 feddans
   - C. When are sheil transactions typically initiated?
     1. What is the calendar date?
     2. What is the date with regard to the cropping year?
     3. How and why do the terms of thesheil contract change systematically during the crop year?
     4. Are the sheil contracts written or oral?
     5. What is the composition of these loans? cash/goods/farm inputs?
   - D. When are sheil transactions consummated?
     1. When do cash or goods change hands?
     2. When does ownership of the crop change hands?
     3. When and under what conditions is the crop harvested and delivered to the buyer?

E. What crops are involved and to what extent?

II. Who bears the financial risk?

A. Does the lender bear a price risk? A yield risk? Both?

B. Are these risks shared by both lender and borrower? If so, what are the terms?

C. How does the lender determine the credit worthiness of the borrower?

D. How does the lender determine the size of the loan?

E. What kind and how much collateral is used to secure what size loan?

III. What is the effective rate of interest?

A. Since this is short term financing, this should be calculated at an annualized rate.

B. How does the lender utilize his surplus loanable funds at other times of the year?

C. Does the lender act as an agent for other money lender? If so, to what extent?

D. What is the form of repayment?

E. What is the lender's perception of inflation? Does he incorporate this into the effective rate of interest?

IV. What is the nature and extent of loan delinquency and default?

A. What are the frequencies and magnitudes of delinquent loans?

B. What is the mechanism for handling delinquent loans?

C. What are the frequencies and magnitudes of loans in default?

D. What is the mechanism for handling loans in default?

V. What are the credit needs (demand) of the villagers?

A. Production credit needs and timing?

B. Consumption credit needs and timing?

C. Credit demand for major family events? (e.g., marriages, births, deaths, religious festivals) and timing?

D. What is the debt/income ratio in the project area by class of farmer (0-5 feddans, 5-10 feddans, 10-20 feddans and more than 20 feddans?)

VI. What are the prevailing commercial, agricultural and governmental rates of interest?

A. in the Sudan?

B. in the Blue Nile Province?

C. in the project area?

VII. What are the loan policies, interest rates charged on loans, sources of funds, interest paid on deposits and incidence of bad debts of:

A. Bank of Khartoum/Damazin

B. Agricultural Bank of Damazin

C. Cooperative Bank

The time needed to complete this scope of work is estimated to be approximately five weeks: four weeks for field research and one week for document write-up. A minimum of three villages in the project area shall be surveyed. Abu Gemai, Kharen-Kharen and one other village situated between Kharen-Kharen and Ilyas are the proposed target villages. Final village selection will be determined with the consultant and other E.I. staff. The consultant should work closely with John Butts in the area of survey design and content; Zach Lea with regard to information organization and presentation and Ken Eubanks vis-à-vis research methodology and economic analysis.