Chapter Three

A CASE STUDY OF MELUT SUGAR PROJECT
(SUDAN)*

3.1 Project Planning

3.1.1 Salient Features

The idea of Melut Sugar Project (MSP) dated back to 1964 when topography surveys, trial tests of sugarcane and irrigation maps for an area of 6,300 hectares were prepared. In 1973, another topography survey, trial tests of sugarcane and irrigation maps for an area of 13,440 hectares were prepared. Those early studies and surveys showed favourable results of sugarcane plantation in the Melut clay plains.

Based on these results, the idea of establishing a sugar factory at Melut came into being and was sponsored by the Sugar and Distillery Corporation with the blessing of the Ministry of Industry. The studies of the project were carried out by a foreign company and the project was contracted out

* In preparing this case the present writer relied on: (a) Projects Bureau, "Contract of the Melut Sugar Project", Ministry of Industry, Government of Sudan, 1974; (b) Projects Bureau, Internal Records, 1974-1987; (c) Records and Minutes of Meetings of the Committee of Melur Sugar Project Equipments, 1987.
to be implemented on turn-key basis. The contract was signed on the 27th of November 1974, and the target date for completion was October 1977. Total contract cost of the project was $76.5 million.

3.1.2 Location of the Project

MSP is located about 150 miles to the north of Malakal, the capital city of Upper Nile Province, on the eastern bank of the White Nile. It is near Melut village. The selection of the Melut area has been based on a detailed soil survey made by the Soil Survey Department of Wad Medani. Specially, the selection of the project was favoured for:

(a) A feasible ecological site. There was suitable rainfall and its yearly distribution, temperature and its variations, insolation, relative humidity, evaporation and flowering of the cane.

(b) Suitable soil for cane varieties and suitable slope of the area. The slope of the site (0.0018 %) was very suitable for the development of the irrigation infrastructure. Only very little levelling had to be done.

(c) Availability of water. The White Nile flow is more than sufficient throughout the year.

(d) Employment for the area. The Southern Region of Sudan is the least developed of the regions of Sudan. Therefore, the project would help developing the region.
(e) Marketability of sugar. This was the only sugar project in the Southern Region; therefore, potential market was available.

(f) The soil of Melut is favourable to sugarcane cultivation and did not need important work of preparation because the soil of the area is alluvial and has no rocks. Moreover, its vegetation only consisted of open grass.

(g) Topography of the site is extremely flat. This gives a favourable advantage to the irrigation and mechanisation which highly reduces investment costs because irrigation can be made by simple gravity.

3.2 Feasibility Study and Contracting

The Belgians offered tender for the construction of the factory. The Ministry of Industry provisionally accepted their offer provided that they came up with a detailed feasibility study supporting the economic viability of the project within six months.

The Sudan Government chose HVA of Holland as consultant. HVA had vast experience in Indonesia and Ethiopia. So it could take up the job. UCMAS, the Belgian company who offered to execute the project, also had vast experience in the area. It executed over twenty sugar projects.

In early 1974, UCMAS conducted an agricultural and economic feasibility study of the MSP. The feasibility study was appraised by HVA who also appraised the tender on behalf of
the Sudan Government. Both documents were approved by
the consultant.

The contract was then awarded to UCMAS; the factory
was to be erected on turn-key basis. The contract was signed
on the 27th of November, 1974 (which was the zero date) for
construction of a sugarcane factory with a capacity of 6,500
tonnes/cane/day equivalent to 110 thousand tonnes of sugar
per year. The factory was to be completed in October 1977,
i.e., a planned completion period of 36 months. The project
was expected to create 5,000 job opportunities.

As far as source of finance is concerned, originally the
project was envisaged to have four types of financing as
follows:

(1) 70% Belgian goods.
(2) Pumps from Austria.
(3) Agricultural equipments from U.S.A.
(4) 30% from other sources (financial gap)

The financial gap was to be filled by the Sudan Develop-
ment Corporation. The Exim Bank of U.S.A. was to finance
the agricultural equipments (grab loaders, tractors and
trailers) to the value of $3,630 thousand but it withdrew
the credit facility because the client did not arrange for
opening a letter of credit in the name of the suppliers of
the items.

In April 1976, a contract was signed with a French company
to supply boilers worth Ls 5.2 million. The Sudan Government contributed Ls 10.6 million to cover costs of irrigation works, housing construction, supply of agricultural machinery and equipments, inland transportation etc.

Due to initial difficulties to secure finance for the project, the execution came virtually to a standstill in the second half of 1975. In April 1976, fresh negotiations on the contract resumed which resulted in signing a series of amendments which in turn raised the factory cost by 16 per cent for the foreign components and 40 per cent for the local components. As seen from table 3.1, the revised target date for the modification of 30 April 1976 was January 1979. The first three modifications were mainly due to the fact that the client (Sudan Government) has failed to honour contract term of paying 10 per cent down within thirty days of the signature of the contract. Also as seen from the table that some revisions only affected completion date with no change in capital outlay while in other modifications the capital outlay was increased without extending the completion date.

Discussions between the client and the contractor to continue the factory started in early 1978. Those were followed by many discussions in Sudan and Belgium. Thereafter, the contractor made a series of claims for modification and extension of the completion date. In March 1978, he
### Table 3.1

**Melut Sugar Project Schedule Revisions & Costs**

<table>
<thead>
<tr>
<th>Modification No.</th>
<th>Date of Modification</th>
<th>Revised Date of Completion</th>
<th>Revised Capital Outlay (Million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>2.6.1975</td>
<td>Oct. 1977</td>
<td>85.10</td>
</tr>
<tr>
<td>2nd</td>
<td>1.4.1976</td>
<td>Oct. 1977</td>
<td>85.10</td>
</tr>
<tr>
<td>3rd</td>
<td>30.4.1976</td>
<td>Jan. 1979</td>
<td>85.10</td>
</tr>
<tr>
<td>4th</td>
<td>March 1978</td>
<td>Mar. 1980</td>
<td>98.83</td>
</tr>
<tr>
<td>5th</td>
<td>May 1979</td>
<td>Nov. 1981</td>
<td>106.00</td>
</tr>
<tr>
<td>6th</td>
<td>Feb. 1980</td>
<td>Mar. 1983</td>
<td>106.00</td>
</tr>
<tr>
<td>7th</td>
<td>1983</td>
<td>1985</td>
<td>500.00</td>
</tr>
</tbody>
</table>

**Source**: The table is prepared by the present writer from records and reports of the Projects Bureau, Ministry of Industry, Government of Sudan.
demanded extension to March 1980 with an additional cost of $13.73 million. The negotiations were not fruitful. Therefore, the contractor terminated the contract on 8 October, 1978.

The client discussed the issue of MSP again with the contractor. And in February 1980, the contractor, demanding an extension to complete the project in March 1983, submitted an offer of $106 million. Those negotiations also were not fruitful. In 1983, the Projects Preparation Unit of the Planning Department re-studied the project, evaluated it to cost $500 million and to be implemented by 1985. By 1983 the Projects Bureau was undergoing a shrinkage in its span of supervision as a result of re-organising the public industrial sector projects. Those issues as well as problems of a civil war in the Southern Region of Sudan overshadowed MSP problems.

3.3 Project Implementation

3.3.1 Project Organisation and Monitoring

MSP was headed by a project manager who had under his supervision a specialist in agriculture and one in civil engineering who was deputed from time to time from the Projects Bureau (PB). The project manager was responsible for the supervision of implementation and was to report to the Director
of the PB. Follow-up officers were sometimes sent from the PB to the project site to report on progress and problems. Many workers on the agricultural activities or civil engineering activities at the project site worked on part-time basis. Therefore, the project organisation was a matrix form. Right now the project organisation consists of the project manager, agricultural specialist and some supporting staff, administrative officer, accountant, etc. They left the project site and joined the PB headquarters in Khartoum because of the civil war in the Southern Region. The present organisation chart of Melut Sugar Project is depicted in Figure 3.1.

![Organisation Chart of Melut Sugar Project](image)

As monitoring of the project implementation is concerned, the monitoring system discussed in chapter two did not work. Mostly, reports were sent from the project site to the PB
showing basic information such as planned schedules, names of sub-contractors, installed capacity, percentage of civil work completed and problems faced. But as no schedules were prepared by sub-contractors and as work itself almost stopped since 1978, those reports did not have much meaning. As a matter of fact, only 10 per cent of the work has been completed on the project site. About half of the equipments were in Belgium; some were in Port Sudan and Kosti. The equipments and parts at the project site were left to theft and deterioration.

3.3.2 Problems Faced (1974-1980).

The first problem of implementation faced by the project was financing. The Ministry of Industry signed the contract with UCMAS before securing finances for the project. When the contractor asked for a revised estimate in June 1975 (Table 3.1), the cost of the factory was raised from $76.5 million to $85.1 million. Later on, as seen from the table, a series of amendments took place.

On 30th April, 1976, the Belgian debt of the value of 14,72,400 thousand Belgian Francs (54.6 per cent of the total debt) was to finance the project and to be paid back in 14 half yearly instalments. The first instalment was to be paid on 15.8.1979. The interest was 8.85 per cent which was to be paid in advance on the fifteenth of August of every month.
The project is still under implementation.

Another problem faced by the client was that it could not meet a clause in the original contract saying that the client should provide a durable road from the river bank to the project site within three months of the date of signature of the contract (27.11.1974). As a matter of fact no bidder offered to tender for that job because the job was impossible to be done within three months.

There was a problem of raw materials availability for constructing the road in the area; the rock was to be transported from a far-away rough area and no transportation modes for that were available. The contractor said that when he signed the contract he was not informed about the local conditions. This was one of the main reasons for which the contractor applied for extension in the fourth modification.

A third problem faced was that both the Sudan Railways and River Transport Corporation did not give enough priority to MSP in the allotment of wagons and river barges. Therefore, fuel was not promptly transported by river from Kosti to Melut. This reason also was stated by the contractor for extension of time and higher payment.

A fourth problem faced, and is facing, the implementation of MSP is war in the Southern Region of Sudan. The civil war began in the 1950s. However, the May Government (1969-85)
could cool it down by signing the Addis Ababa Agreement in March 1972. In the late 1970s, the war activated again so much so that, as will be seen in the following pages, it becomes the most determining factor in the implementation of the project. The present position of the project is described in the last section of this chapter.

3.4 Time Overruns of the Project

Recalling Table 3.1, the client and contractor agreed on 30.4.1976 to extend the completion date of the project from October 1977 to January 1979. That was mainly due to the inability of the client to pay 10 per cent of the contract price within thirty days of the signature of the contract. The problems of finance, however, could not be resolved.

In October 1977, work at the site was gradually resumed. And in March 1978, the contractor reviewed his problems and filed a claim of extension to complete the project in March 1980. The contractor also asked for an additional amount of $13.73 million and attached the claims of Belgian Banks (47 million Belgian Francs). That was in addition to price escalations of 27 million Belgian Francs plus a letter of credit concerning insurance and river transport. The main reasons for the claims of extension and additional amounts were that the client did not fulfill some contract obligations
and other reasons stated below:

(1) The consultants were not available between 12.5.1976 and June 1976 to approve specifications. Therefore, the work of the contractor was delayed.

(2) The contractor claimed one month extension because his work was interrupted for one month by Green Monkey disease in the Southern Region of Sudan due to which travelling south of Kosti was prohibited.

(3) The client did not approve the selection of sub-contractors early so that the contractor could start his work.

(4) Goods and project equipments at Port Sudan were held due to delays of the Bank of Sudan in processing the bill of lading. Hence, delay occurred in forwarding goods and equipments to Melut.

(5) Lack of means of transport of fuel from Kosti to Melut.

(6) There were no telecommunication facilities which was against contract clause 4-2-1(v). The contractor argued that they should have easy communication with Melut and telex equipments for messages to Brussels.

(7) Both Sudan Railways and River Transport Corporation were not giving enough attention in the allotment of wagons and river barges.

(8) Non-availability of cement from local factories (Atbara and Rabak) held up contractor's work.

(9) The client did not fulfil clause 4.2(iv) of the contract
which made an obligation on him to provide a durable road from the White Nile bank to the project site within three months of the signature of the contract.

Discussions between the client and the contractor, with the presence of HVA consultants, started in early 1978 and were carried on in Sudan and Belgium. No consensus was reached. The client wanted to bring down the additional cost of $13.73 million which was asked by the contractor. Finally, in October 1978, the contractor unilaterally terminated the contract on the advice of their insurers, Ducroire.

Thereafter, many discussions went on between the client and the contractor, and finally, in May 1979, UCMAS and the Sudan Government signed a protocol according to which the claim of the contractor was reduced from 412 million Belgian Francs to 350 million Belgian Francs, and the local component was reduced from Ls 760 million to Ls 224 million. Also the client agreed to grant the contractor 29 months for the completion of the project in November 1981. In addition, the Sudan Government agreed to resolve the problems of transport, cement, fuel etc., and the Bank of Sudan would release the sum of one million Sudanese pounds for marine freight.

However, since the client could not pay the contractor either in part or whole the protocol agreement had not taken effect; hence, UCMAS left Sudan in December 1978.
3.5 Progress of the Project (1980-87)

In 1980, the span of management of the PB, the organisation responsible for supervising public sector industrial projects implementation, was narrowed to only two projects, namely, Tonj Kenaf Sacks Project and MSP. Both of them are in the Southern Region. Other projects under implementation were assigned to the Industrial Production Corporation.

In the late 1970s and early 1980s, the Southern Region of Sudan witnessed a civil war which is still continuing. This added a new dimension to Melut problems, e.g., delays, cost overruns, shortage of foreign exchange etc. However, in February 1981, the contractor presented a new offer to the Ministry of Industry for the completion of the project at $106 million in 24 months. By that time, about 98 per cent of the equipments were purchased of which 65 per cent were in Sudan and 35 per cent were stored in Belgium. The client had to pay storage and insurance costs. Although the contractor was optimistic, because of the civil war and the client's inability to meet their financial obligations, no progress in MSP took place.

In 1982, a committee for collecting MSP equipments and parts was created. A list of the equipments was prepared and submitted to the Ministry of Industry and to MSP management. But recently (1987), those lists could not be traced.
In 1983, the Ministry of Industry deputed a committee to travel to Belgium so as to negotiate the issue of MSP with the contractors and to see the possibility of completing the project. The committee discussed the issue with the contractor. The client agreed to pay 50 per cent of the request of the contractor (1.4 billion Belgian Francs) on condition that the Belgian Government would finance the equipments which were still in Belgium and would transport them to Sudan. The condition was rejected and hence the client did not pay the 50 per cent.

During the Transitional Government in Sudan (April 1985-April 1986) the Belgian Government decided to go for arbitration. The then Sudanese Minister of Finance and Economic Planning was of the idea of resolving the issue in a friendly manner. Therefore, some authorised committee members visited Belgium. The client agreed to pay the 50 per cent of the request and the Belgian Government was to finance the equipments in Belgium and transport them to Sudan. Also they agreed that the contractor should list the additional equipments needed for MSP. As finance was the problem, the client did not pay the agreed amount.

As stated earlier, the civil war in the Southern Region of Sudan added a new dimension to the problem. In 1985, the rebels in Southern Sudan set the grass of the MSP area on fire. And as the Planning Department did not allocate money
in the annual budget of 1984-85 for preparing a fire line, a store, some prefabricated houses and some of the project parts were destroyed by fire. This loss was valued at $5,00,000. Again, in 1986, some of the rebels attacked Melut area and fired on the project site. They looted valuable equipments. The project staff, who left the site, described the site as insecure, and since then nobody knows what has happened to the equipments, parts, houses etc., at the site.

Nowadays, the Government is trying to study the possibility of changing the project site to Rank, in the northern part of Southern Sudan. The productivity per feddan* in Rank is 18 tonnes of sugarcane while at Melut it is 20 tonnes. The Melut project manager opposes the decision of shifting the project to Rank on the ground that the productivity of Melut soil is higher than that of Rank. But the political side of the problem, the civil war, may weigh more than, and hence, overshadow such economic indicator.

By December 1986, almost all the equipments were in Sudan but dispersed in different towns of the country. Therefore, on 29.1.1987, the Committee of Melut Sugar Project Equipments was formed by the Minister of Industry to gather the equipments which were shipped from Belgium to Port Sudan, evaluate them and to see how and who is to make use of them. On 10.3.1987, the Committee was assigned the responsibility of

* Feddan is a unit of measurement in Sudan equivalent to 4,200 square metres.
advising on a suitable location to which the project could be shifted.

Accordingly, in April 1987, in the first committee's meeting, three sub-committees were formed; namely, the Site Committee, the Technical Committee and the Financial Committee. As the names indicate, the Site Committee is to list the equipments location-wise in Sudan (i.e., Port Sudan, Kosti, Melut etc.) and to prepare a budget plan for transporting the equipments from Port Sudan and Kosti to Hager Assalaya, the agreed-upon centre for collecting the equipments. The Technical Committee is to collect feasibility studies of Melut and Rank (the alternative), to carry out soil test studies and to advise on the best location. The Financial Committee is to foresee the cost of the project. Fortyfive days were given to both the Technical and the Site Committees to finish their assignments.

According to the minutes of the second meeting of MSP Equipments Committee held on 10.5.1987, no progress was made. The Minister of Industry directed the Chairman of the Committee not to transport Melut equipments from Port Sudan to Hager Assalaya. This job, according to the Minister, was the responsibility of the Ministry of Industry. Information, reports and feasibility studies of MSP done before could not be traced. The sub-committees could not perform their assignments; till August 1987, no progress was achieved and a final decision
is yet awaited.

3.6 Lessons from Melut Sugar Project

Melut Sugar Project, envisaged to be completed ten years back and still under implementation, becomes the project with the longest gestation period in Sudan. The Sudan Government did not secure finance to pay the contractor, and the project studies did not take into consideration local needs of the project. Had these facts, which were controllable, been observed, Melut Sugar Project would have been implemented some years back at far less cost. A civil war, a non-controllable factor, added new problems to the project and Melut area became insecure. However, a quick decision regarding project location is needed because project cost increases due to labour cost, plant and machinery spoilage, theft and inflation, to mention a few factors.