
The Silo Project

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Those who work with government development projects are well aware that many are far from successful. This is not only true in less developed countries; there are many failures in the developed world too, for example in local government projects. But it appears to be a particular problem with projects financed from foreign aid. This writer, for example, when challenged finds it hard to think of more than a handful of projects financed by Western aid donors that were 'successful' in the sense of providing the expected benefits at approximately the anticipated costs, without imposing significant unanticipated social costs on any part of the population.

This paper presents an outline of the negotiations that led to the acceptance of one particularly bad project. It is not a 'typical' project, for there is no such thing. On the other hand many aspects of this project will not surprise those with experience of aid-financed projects. It is particularly instructive for those who are concerned with the negotiation of project agreements; for it brings out the way in which a well-intentioned donor's wish not to intrude on the recipient's decision-making can leave a policy vacuum. In such a situation commercial or political expediency can easily take precedence over the economic rationality highlighted in project appraisals.

History of the project

In 1965 the Swedish International Development Agency (SIDA), at the request of the Tanzanian Government, sent an agronomist to 'examine the storage and pest problem on the ground, and to advise us on our requirements'.

His report¹ was dated May 10, 1966, and when discussing grain storage and handling it noted that 'very little *labour saving* (my italics) had been introduced and that even in the Moshi/Arusha area bulk handling was seen only as a possibility for the very distant future'. SIDA suggested to the Tanzanian Government that it would be prepared to pay for a more detailed investigation of grain storage in Tanzania.

The result was the Agriconsult Report² presented in early 1967 which stated at the outset that the purpose of the proposals put forward was to introduce modern techniques of grain handling into the country. The report recommended 'modern silos' for Arusha, Dodoma, Iringa and Dar es Salaam, and, after a brief discussion, concluded that local storage was not a major problem and that, for the short periods before the grain was taken to central stores, tarpaulin covers and fences could serve as well as godowns, and at lower cost.

After some pressure from SIDA, the Tanzanian Government in September 1967 submitted a formal request for SIDA to finance two of the four silos in accordance with the consultant's specifications. SIDA, however, (unexpectedly) announced that the Agriconsult report was not a satisfactory document on which to base a project, and offered Swedish money for another consultancy.

The new consultants, K-Konsult, reported in December 1968.³ Their terms of reference specifically mentioned that modern silos should form part of the project, and thus they were not required to consider whether silos were or were not the best form of grain storage for Tanzania.

K-Konsult returned in February 1969 and produced another report⁴ which recommended additional facilities and yet more mechanisation at the silo sites.

The project was signed in July 1969 with the following items:

4 silos, total capacity 47,000 tons	T.Shs. ⁵ 22m/-
40 small godowns, total capacity 16,000 tons	T.Shs. 4m/-
11 grade 'A' houses	T.Shs. 2m/-
Consultancies and Technical Assistance	T.Shs. 5m/-
Unallocated balance	T.Shs. 6m/-
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Total	T.Shs. 39m/-

2 AGRICONSULT, 1967. 'Survey of Storage and Handling of Foodgrains and Other Crops in Tanzania', January.

3 K-KONSULT, 1968. 'Foodgrain Storage in Tanzania December.

4 K-KONSULT, 1969. 'Appendix to Appraisal Report'.

5 One Tanzanian shilling at that time exchanged for 0.14 US dollars, or 0.059 pound sterling, 7.1 Tanzanian shillings exchanged for one dollar.

1 Gesslein, S., 1966. 'Some facts about the Cultivation and Storage of Grain and Oil Plants in Tanzania' SIDA, May.

In March 1970, the project was strongly opposed by the National Agricultural Products Board (NAPB), the body responsible for implementing the project:

'In spite of the whole project being considered not viable by both the Management and the Executive Committee of the Board the possibilities of stopping its execution are at present negligible and what remains is for the Board to put its reservations on record.'⁶

NAPB's main objections were as follows:

—From NAPB's point of view the project was very costly. In particular, since the Treasury intended to charge the NAPB a semi-commercial rate of interest on the whole loan, NAPB's storage costs would rise sharply, and they warned that this would mean lower prices of maize for the farmers. (Note: in view of what is said below about the rate of return of the project, this view must be regarded as correct.)

—It would require many highly trained experts and mechanics to run the equipment, and there could be problems with spares and maintenance even then. The project would be a break in NAPB's tradition of self-reliance.

—It would imply too much centralisation of storage facilities, thereby increasing transport costs.

—NAPB disagreed with some of the figures of wastage used by the consultants, and drew attention to the improvements that could easily be made to the present system.

These objections by the parastatal supposedly in charge of the project were never answered.

Detailed planning and design work started. However, when in late 1970 tenders were called it was found that they were far in excess of the consultants' figures—100 per cent in excess in the case of the machinery. K-Konsult had based their figures on European prices plus transport costs. The firms involved wanted much more than this. In conventional terms K-Konsult failed to predict the prices correctly—but objectively it might be fairer to blame the system of foreign aid tendering. When K-Konsult were called back by SIDA in January 1971 to justify their 'mistake', they explained that they had not realised that some prices differed in Tanzania from the Swedish prices.⁷ They then proposed to increase the size of the silos to bring down the unit costs.

After some uncertainty (by this time—determined lobbies in both the Swedish and the Tanzanian camps were questioning the whole project), it was decided to remove one silo and increase the size of the other three.

More design work followed, but when more tenders were called in November 1971 no local contractor tendered on time, but one local (non-citizen Asian) contractor tendered late. In order to allow him to be considered, SIDA insisted on a retendering, which took place in March 1972. The contract was then awarded to this contractor.

Economic analysis

As described above, the choice of technique (i.e. silos, and within the many types of silos that could have been chosen, concrete silos) was made in 1967. The 1967 Agriconsult report was rejected by SIDA, but its conclusion that silos were economic was built into the terms of reference of all succeeding reports. The cost-benefit analysis of the 1967 report was, however, criticised by an economist who worked on the SIDA files in Stockholm, as well as by economists in the relevant Tanzanian Ministries.

The most careful analysis was made by the Swedish economist, who managed to divide the benefits of the project into those caused by the silos and those caused by the local godowns. He concluded:

—That using the consultant's own assumptions, the rate of return on the local godowns was 22 per cent, while the rate of return on the silos was only 5 per cent.

—That if the technical assistance programme and the senior staff housing (mostly for expatriates) was included in the cash flow then the rates of return fell to 14 per cent for the godowns and 1 per cent for the silos.

—That making some improvements to the consultant's assumptions about the silos, the rate of return can be put at 'somewhere less than 5 per cent'.

—The SIDA economist then argued that since K-Konsult had themselves assumed that the silos would be used for short-term storage and that godowns would continue to be used for long-term storage, there would be few gains from using silos for long-term storage. This view was confirmed by K-Konsult's study of long-term storage costs in 1971. (*op. cit.*)

—He then considered the side-effects of the project, and showed that they were all negative. In particular he calculated that 400 jobs would be lost through having bulk handling rather than

⁶ NAPB, 1970, Executive Committee Paper No. 374/70.

⁷ K-Konsult, 1971, 'Result of a Mission to Tanzania, 18th-27th February 1971.'

sacks and godowns. He recalculated the rate of return using a shadow wage, and found that it was just below zero.

These calculations were derived from K-Konsult's figures before the cost escalations were known. If the cost escalations are included, the rates of return of the silos fall even more. From these figures the conclusion is inescapable. The silos should not have been built, and if more storage facilities were needed they should have been built in the form of godowns, whose technology was simple and well-known. This would have been both self-reliant and economic.

Why was the project not rejected?

How did the project come to be implemented when the case against it was so strong?

In the early consultancies SIDA regarded itself as providing a service to Tanzania in recruiting consultants, but it regarded these consultants as Tanzanian consultants and not Swedish ones. Tanzania, on the other hand, regarded the consultants as Swedish consultants whose advice could only be questioned at the risk of upsetting the Swedes. The consultants were consequently left with almost complete freedom of action.

In Tanzania there was no-one with professional knowledge of silos. At the time of the 1968 report the economists in the Ministry of Agriculture did not study the K-Konsult report in detail before it was accepted. When the weaknesses in the economic analysis were discovered in January 1971 they were not accepted by the senior civil servants, who argued that the economics must have been approved earlier.

In addition, various Swedish consultants and experts failed to produce usable documents. The Agriconsult report was simply rejected, and the K-Konsult report was so far out with its figures that it became discredited. The consultants failed to adapt to Tanzanian conditions. Admittedly Sweden had little previous experience in tropical storage. The 'experts' therefore prescribed the kind of storage they were accustomed to build in Sweden. They forgot that the rationale for the

techniques they knew was the shortage of labour in Sweden and the high wages. When K-Konsult's engineers realised their freedom they increased the amount of machinery involved.

On the Tanzanian side the project was dominated by a philosophy of modernisation. It was thought that the silos were the latest and most modern form of storage, and therefore would be appropriate for Tanzania in its efforts to catch up in the technological race. This led to a feeling that 'silos were right' on the part of the Minister of Agriculture. Since silos were 'modern' it was very hard for anyone to oppose them, and all sorts of specious arguments were used (the consultants had recommended it, it must be right; there had already been more than enough feasibility studies; now was the time for action, no more delays; the silos might not be economic now, but surely one day they would become so; and—decisively—the Swedes would be upset if it was cancelled now). These arguments were used by people who had not considered the counter-arguments, or who had themselves been involved in the initial negotiations with the Swedes. Many were simply too busy to welcome another complicated problem.

The opposition to the project from the NAPB was ignored throughout. It was largely neutralised by support from another parastatal, the National Milling Corporation (NMC), which stood to gain from the silos since they would ease the problems of feeding their mills—this saving in transport from godown to mill is one of the few benefits of the project and under the existing cost structure it would have accrued to NMC rather than NAPB. NAPB eventually came to take a fatalistic position in which they argued that the government had forced this project on them, and who were they to dispute it? In a four-page NAPB supplement in the Dar es Salaam *Standard* of 23 February 1972 there is not one reference to the silos, but the following sad comment on storage: 'To date the Board's total storage capacity of 175,300 tons has been created with finances solely from its own domestic saving without having to resort to any external financial help. This is in line with our policy of self-reliance.'