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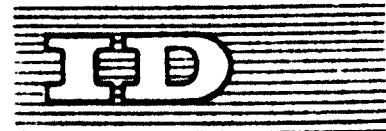
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Agenda item IX/5

FINANCING NEW FERTILIZER PLANTS
- EXPERIENCE OF THE WORLD BANK GROUP^{1/}

by

World Bank Group
Washington USA

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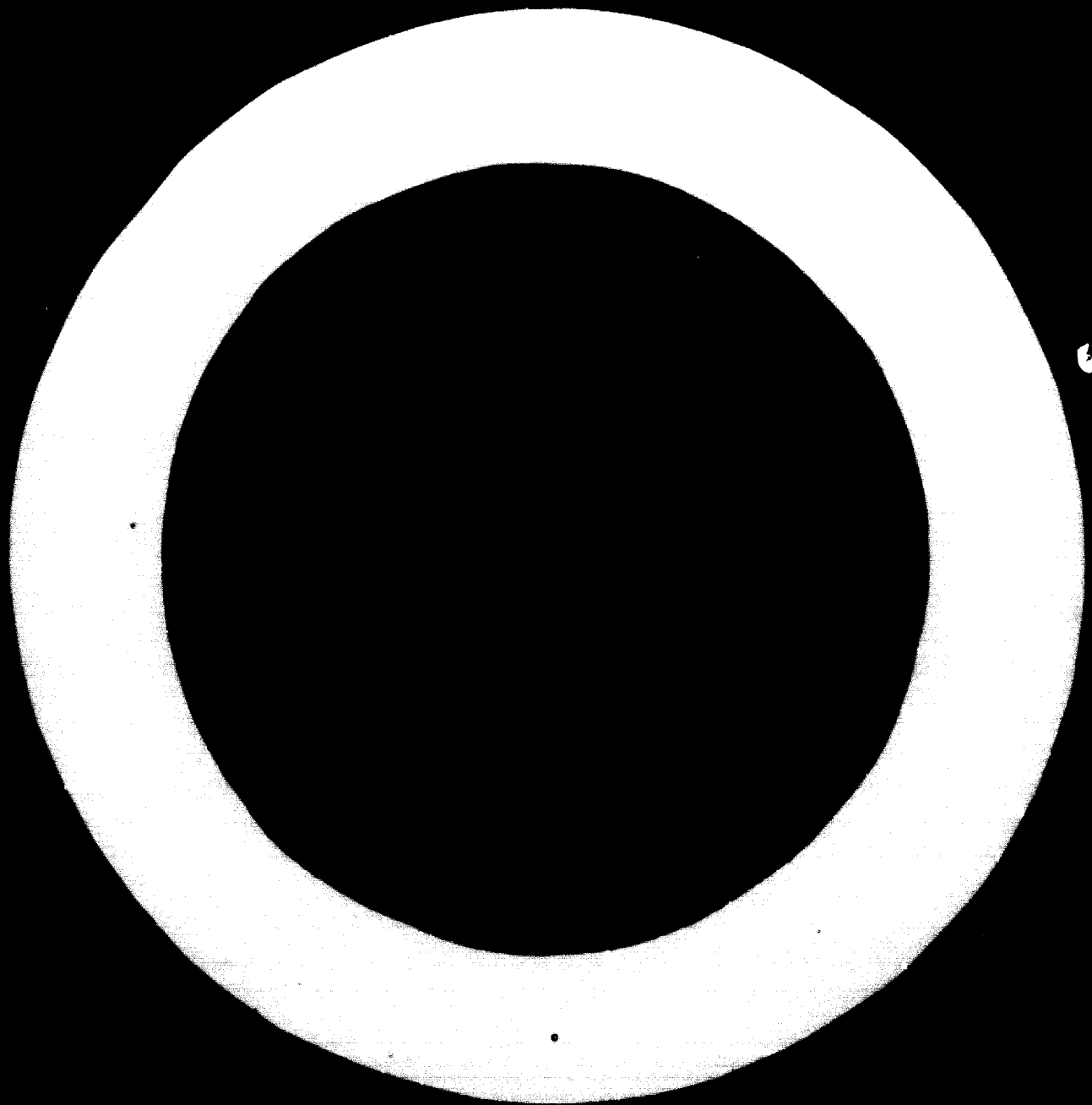
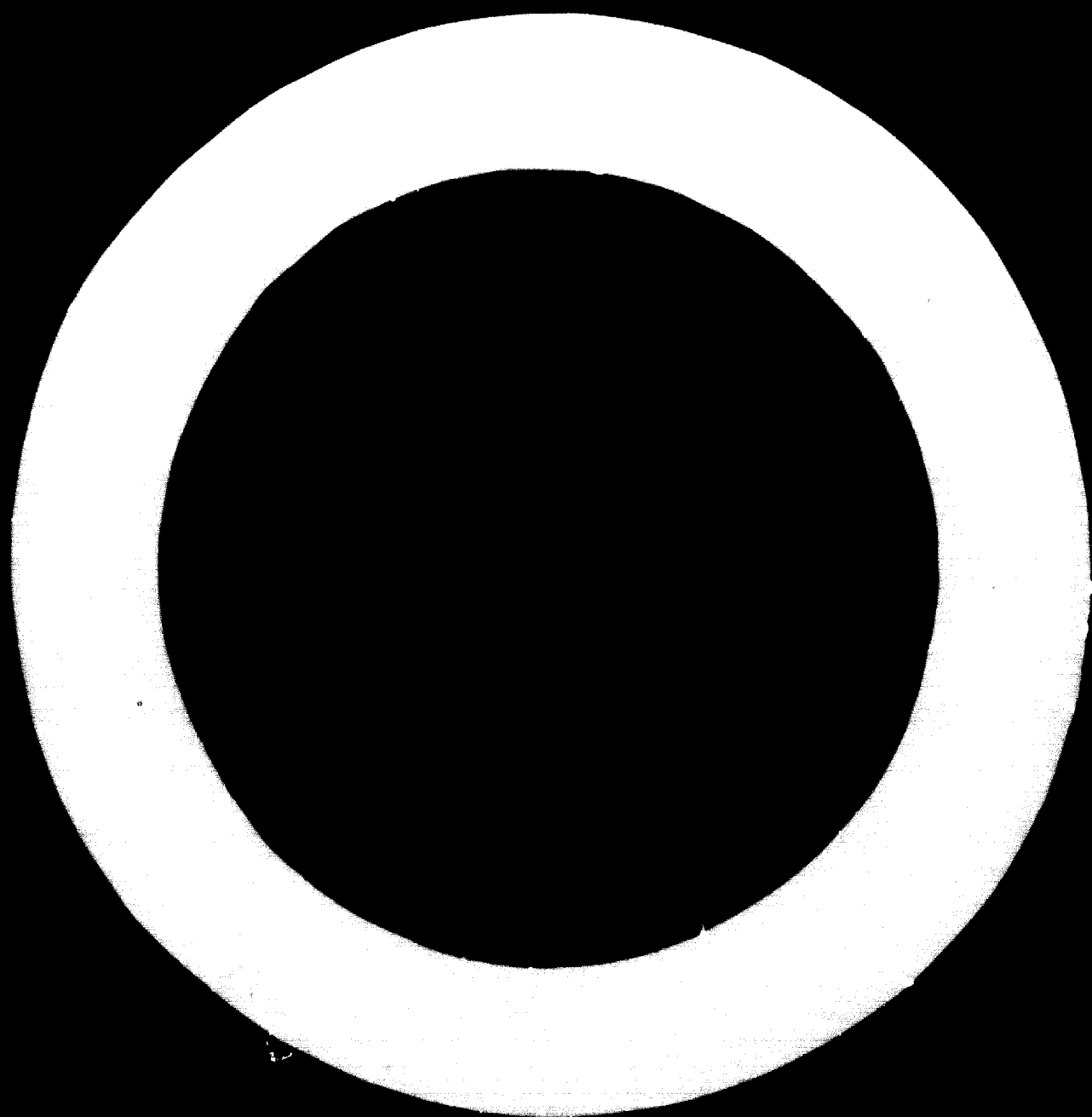


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Introduction

The following remarks are inspired by problems which have arisen in the experience of the World Bank Group in financing fertilizer projects in LDC's. The Bank Group, comprising of the International Bank for Reconstruction and Development (IBRD), popularly known as the World Bank, and its affiliates, the International Development Association (IDA) and International Finance Corporation (IFC), has participated in the financing of a dozen fertilizer projects ranging in size from relatively small plants costing the equivalent of 7 or 8 million to rather large installations costing 100 million. In this paper, the term World Bank, or simply Bank, will be used in its more generic form to indicate the group of three institutions, unless the text indicates otherwise.

The Bank never finances the full cost of a project but customarily makes loans for the foreign exchange cost. If a project involves a considerable amount of finance the Bank may invite other foreign lenders to join in financing or cooperate with lenders proposed by the sponsors.

The proceeds of loans and credits of the Bank may be spent in any country which is a member (or in Switzerland which is not a member but which is a source of finance for the Bank). This gives the sponsor wide latitude in the purchase of services, equipment and materials at the most advantageous prices through international competitive bidding. The proceeds of loans and credits from some bilateral lenders must be spent in the countries which lend the money. Sometimes there are as many as four lenders who manage to work in harmony, though with some headaches for the procurement staff of the sponsors.

If the sponsors are not experienced in the manufacturing and marketing of fertilizers, it is necessary to find some continuing source of expertise in these fields. The best way of providing this is for the sponsors to secure a partner with the necessary know-how who will contribute a sufficient share of the equity to ensure his continuing interest in seeing that the project goes well. On request the Bank will assist the sponsors in finding a suitable partner.

Contrary to popular opinion, the actual engineering, procurement and construction of a large fertilizer complex in a developing country is usually not the most difficult part of a fertilizer project. Securing the necessary financing, ensuring a supply of raw materials, making firm provisions for the marketing of the product and providing the ultimate consumer, the farmer, with the means to purchase the product are usually arduous and time consuming tasks that overshadow the engineering and construction of the facilities.

This is not to say that the engineering and construction phases do not have their problems. These have been well documented and are known to us all.

The problems which have arisen in the Bank's experience fall broadly into five categories:

- I. Project Preparation
- II. Financing
- III. Project Execution
- IV. Marketing and Distribution
- V. Government Policies

I. Project Preparation

Projects are brought to the Bank in all stages of preparation, from little more than a gleam in the eye of the sponsor to quite elaborate feasibility studies. There are advantages to both approaches.

The Bank's first questions are likely to deal with the raison d'être and the broadly surrounding criteria for proposing the project in the first place. If the project is in its early formative stages the discussions may help to give it a more favourable direction or may indicate that further consideration of the project is not likely to be profitable. At this stage the sponsor has not yet incurred the expense of a feasibility study.

If, on the other hand, a sophisticated study has been prepared by competent staff the sponsor may have already raised the same question that the Bank would raise and will have answered them. Occasionally a feasibility study is considerably altered after exploration of the project with the Bank.

Among the topics which are inadequately treated in feasibility reports are the following:

Raw Materials Supply - It is essential that the project have long term commitments for the supply (including delivery to the manufacturing facilities) of all needed raw materials with a formula for future price determination. By "long-term" is meant the economic life of the project.

One may agree that it is difficult to obtain long term commitments before financing of the project is assured. Likewise it is difficult to secure financing until a supply of raw materials is assured. In the experience of the Bank it is usually possible to secure long term commitments for raw materials on a

contingent basis, that is, contingent upon the projects' being financed and executed.

Land - In some countries, on account of traditional inheritance laws, land is held in small parcels by a large number of owners. Dealing with all of these owners would be an and time consuming process. In such cases it is sometimes possible for the Government to take over a large tract of land by right of eminent domain, transfer the tract to the project, and then later settle with the owners as provided by law.

Even such a procedure may be time consuming as it is usually necessary for the Government to follow certain formalities such as advertisement, public hearing, etc.

The point here is that the Bank must have assurances that the appropriate authorities are, in fact, prepared to proceed with land acquisition if the project goes ahead. If Government action is not involved the Bank must have assurances that the sponsor can, in fact, obtain the necessary land.

Permits - The consent of the Government for the financing and execution of the project is usually required. If a foreign partner is involved he will want to repatriate his share of the earnings and eventually his capital. The Bank and other lenders will, of course, expect their loans to be repaid. Local levels of Government (provincial and municipal) may require that permits be obtained for the erection of the facilities and for discharging effluents. There may be ecological restraints.

The Bank must have assurances that all of these and similar matters have been discussed with the appropriate authorities and that firm and satisfactory agreements have been reached. If this is not done, what would have been a trifling matter to arrange in advance can become a real stumbling block later on.

Estimates of Market - There is often inadequate historical data for the sponsors to draw upon. Either it covers too short a period or it is insufficiently detailed as to kind of fertilizer, plant food content, soil and crop characteristics, area to which applied, and source.

Simple mathematical projections of such data may lead to gross errors in the estimate of future consumption. This is especially true if consumption has recently grown from a small base.

A critical examination of what has happened in the past, and why, with an evaluation of the same factors for the future is necessary to temper the statistical projections which are made on a purely mathematical basis.

Sometimes there is very meagre data on the response of crops to the fertilizer which the project will produce. There is a substantial difference between the results on carefully controlled test plots in an experiment station and the results in the hands of the average farmer, but the size of the market will depend upon what the average farmer achieves.

Some projects are export oriented. Here it is especially important to consider the impact of world prices and transportation costs, the possible effect of competing projects, and the world supply-demand situation. Firm contracts for export sales are necessary.

Summarizing the Bank experience; it is essential to make critical projections rather than simply mathematical projections of demand.

Marketing and Distribution - Suppose a project envisages the construction of one of those glamorous objects, a "big plant with centrifugal compressors" and an accompanying urea plant to produce 330,000 tons annually of urea, half of which is to be shipped by rail and half by lorry. Then about 500 tons per day will move by rail and 500 tons per day by lorry.

On being queried the local railroad says easily that it will be happy to supply 20 cars daily carrying 25 tons each.

But has anyone estimated the average time of turnaround of these cars? Suppose it is three weeks. Then the total number of cars needed is 20 cars per day x 21 days or 420 cars. Where are these cars now? Idle? Where are the locomotives that will pull these cars? Will the railroad have to purchase new cars? When? Where will the railroad obtain the money (and the cars)?

Similar questions, including questions of ownership, arise in connection with lorries. And will the local highways withstand all this additional traffic of heavy lorries?

Who will unload the rail cars and lorries? Does he have adequate go down capacity? Is he committed to be distributor or dealer for the project? Exclusively? How many tons has he agreed to take? When? Off-season? Will he induce farmers to take and store (and pay) off-season?

What is the total go down capacity available to the project? What are the "Fertilizer seasons" and what storage capacity is needed so that the plant can operate at full capacity out of season? How much of this should be at the point of production?

What is the logical marketing territory for the project and is it adequately served by a network of committed distributors and dealers? Have the sponsors developed an adequate marketing organisation? Is it sufficiently developed to be represented by an organisation chart? Job descriptions?

Do the sponsors already have "know-how" in the field of fertilizer marketing or should they join hands with someone who does have it? If marketing assistance is needed what progress has been made in obtaining such help?

When do farmers, dealers and distributors pay for the fertilizer that is used during the "fertilizer season"? Who provides credit? What terms? On this basis what will be the average and maximum amount of Accounts Receivable for the project? Is this adequately reflected in the financial projection of the project.

For export oriented projects long term take or pay commitments for the bulk of the product are a must. Again, these may be contingent upon the financing and execution of the project. There should be formulae for suitable price adjustments in the future. Factors which might prevent the buyer from honoring these commitments (even though he is legally obligated to do so) should be investigated and evaluated by the sponsors. These factors would include, of course, bankruptcy, force majeure, collapse of the buyer's market, overriding other obligations, etc. For domestically oriented projects several "base load" take or pay contracts with large distributors or dealers are obviously also advantageous.

Many of the questions raised in this section must seem quite elementary to anyone who has prepared and executed a fertilizer project, and yet the Bank has been confronted with every one of them and with others of similar tenor.

Financial Projections - These obviously must be based on estimates of capital cost and expected revenues (prices for products). Capital cost estimates should be prepared by a qualified engineering firm with international experience, preferably on a similar kind of project in a similar location.

Estimates of the current FOB cost (or even C and F cost) of the major pieces of equipment and the bulk materials (concrete, steel, piping, wiring, etc.) can usually be obtained with a fair degree of accuracy, but a good deal of guesswork is required in estimating the cost, in time and money, of such items as:

- Site preparation
- Cost of housing colony and amenities
- Cost of ecological provisions
- Pre-operating expenses
- Interest during construction
- Working capital

Considerable further guesswork is required in estimating the cost of such items as the following:

- Productivity of indigenous labor
- Local hiring and discharge customs
- Cost of expatriates
- Escalation of wage rates during project execution
- Strikes and their labor disturbances
- Harbor fees and berthing
- Import duty
- Excise taxes
- Bonus vouchers
- Stevedoring
- Heavy lifts from ship to shore or rail cars
- Bonded storage
- Transportation to plant site
- Loss and pilferage
- Limitations of railroad or highways on weight and dimensions
- Escalation of prices of material and equipment during project execution

Depending upon the amount of engineering that has been done in preparing the estimate of capital cost, a general contingency of 10 per cent to 25 per cent should be added.

The resulting figures are generally regarded as outrageously high by those who have not been through a similar project, but only one of the projects in which the Bank has participated has cost less than it was estimated to cost.

If estimates of capital cost are generally on the low side, estimates of revenues are generally on the high side.

Estimates of production tend to be high in the first few years, when, if there are not technical difficulties, there is certainly a learning curve which applies both to production and to marketing.

Prices of product tend to be overstated, especially after the first few years. There has been a continual downward drift of world prices in response to technological progress, to the discovery of new reserves of sulphur, phosphate and potash, and to the excess productive capacity which has been built.

Some authorities think that prices will soon 'bottom out' and hence not drift much lower, but to the Bank staff it seems unlikely that the present pressures of world prices will soon subside.

As for technology, it was supposed to have achieved its outward limits about 15 years ago when a 400 ton ammonia plant was built. New catalysts and other improvements could well constitute another 'breakthrough' in a few years comparable to that of the centrifugal compressor.

As for plant capacity, Professor Raymond Ewell's^{1/} figures of needed production, if anywhere nearly correct, can only point to more and larger facilities. In 1952 the then President of a large American Corporation which figured prominently in ammonia production, refused a capital appropriation request for a new 400 ton ammonia plant because 'by the time it could be built ammonia will be running out of everyone's ears'. Ten years later he authorized the construction of one of the giant plants in the industry.

Even though a project may not look very profitable when conservative estimates of capital cost and revenues are used, it may be justifiable, in comparison with investments in other fields, if it reduces the foreign exchange requirements of the host country and offers employment to additional nationals.

II. Financing

The financing policies and practices of the three agencies comprising the Bank Group may be briefly summarized as follows:

^{1/} Vice President for Research
State University of New York at Buffalo,
Buffalo, New York, U.S.A.

IBRD - makes loans to governments or to government-owned or private projects, which government guarantees, in LDC's which are members of the Bank at commercial interest rates. The loan is usually for the expected economic life of the project with a grace period equivalent to the construction period.

IDA - Extends credits to governments in the poorer developing countries which could not afford loans at commercial rates for relending to projects at commercial terms. IDA credits to governments are at long term (50 years), including a long grace period (10 years), with no interest, but bearing a service charge of $\frac{3}{4}$ of 1% per year.

IFC - Invests in the equity of projects in the private sector of LDC's which are members of IFC and also makes loans at commercial rates in both cases without a government guarantee. Takes only part of the foreign exchange cost in equity and loan. Loans run for the expected economic life of the project (usually not over 15 years), with a grace period during construction.

Supposedly the Bank is a lender of last resort. That is, if other sources of financing at reasonable terms cannot be obtained, then an approach to the Bank is appropriate. All too often the Bank is approached first, with the hope expressed or implied, that it will do the whole job.

Usually there are other lenders who will assume part of the financing, particularly if it is known that the Bank will participate. The Bank's membership is made up of over 100 nations, each of which has contributed funds in proportion to its economic strength. This lends a certain stability to a project in which the Bank invests, with less likelihood of expropriation and other acts which might impair the viability of the project. The Bank's decision to invest improves the credit worthiness of a project and this also makes other lenders more ready to participate. The Bank will assist sponsors in finding other lenders. It also encourages investment in the project by nationals of the host country.

The Bank and its affiliates issue guidelines describing their policies in more detail than is possible here^{1/}

For fertilizer projects the Bank prefers a maximum debt: equity ratio 60:40. This is sometimes a problem with sponsors who have based their initial

^{1/} Policies and Operations, the World Bank, IDA and IFC, June 1971.

financing efforts and profitability projections on a substantially higher proportion of debt.

Before deciding to invest in a project, the Bank makes an economic, financial and technical appraisal. Sponsors generally express surprise at the detailed investigation made by the appraisal mission, which visits the sponsors and the proposed plant site, and on occasion the engineering firms which have been involved in the preparation of the feasibility report.

The appraisal mission not only seeks to confirm all information presented in the feasibility report, but to explore all avenues which may have a bearing on the success of the project. This involves detailed discussions with the sponsors, with the appropriate government agencies, with agricultural experiment stations, with farmers and in fact with anyone who can contribute to a thorough understanding of the project.

Among the rather difficult areas of the appraisal is an examination of the financial condition of the sponsors. Understandably there is a reluctance at times to make a full disclosure. The Bank endeavors to cooperate, but it is essential to obtain sufficient information to judge the sponsor's ability to handle the obligations of the new project.

If there are any deficiencies in the preparation of the project, they come to light during the appraisal and the collection of additional information or the adoption of corrective measures can be initiated by the sponsors. The Bank can often assist the sponsors in these areas.

Some other institutional investors desire to make their own appraisals but, generally speaking, they will rely on the appraisal made by the Bank.

III. Project Execution

Technical Advisers - In a developing country it is unlikely that the sponsors of a sizeable fertilizer project, even though they are experienced will have a staff large enough to deal with the new project. The Bank encourages such sponsors to select a Technical Advisor who will act, in effect, like an extension of the owner's staff and who will assume the functions of the owner's project team.

Some sponsors delegate rather full authority to the Technical Advisor to act in their behalf. Others prefer the Technical Advisor's service to be purely advisory. A judicious mixture of the two philosophies is probably best,

giving the Technical Adviser as much autonomy as possible and reserving for the sponsor's review only so much of his work as is necessary to retain control and to be sure that the sponsor participated in major decisions.

In case the sponsors of a project have no previous experience but have found a partner with the necessary know-how, the latter may have sufficient staff to be seconded to the project or obviate the need for a Technical Adviser.

In any event, there is a great deal of work to be done in supervising a large fertilizer project, and it is difficult for sponsors to foresee the magnitude of the job.

Choosing a Contractor - Some countries are trying hard to develop competence in modern technology among local engineering and construction firms. This is a laudable objective, but when it results in asking one of these relatively small firms to undertake the management of a project costing 60 - 170 million by allying themselves with a large knowledgeable engineering and construction firm, the objective is not likely to be achieved. It is preferable to invite the large firm to manage the job with the understanding that as much of the work as possible would be entrusted to the local firm.

There are no hard and fast Bank rules about selecting contractors. A method approved by the Bank is to advertise the project widely, asking interested firms to write in for qualification conditions. Firms who respond are then asked to submit their qualifications for performing the work described in the qualification conditions. These responses are evaluated and firms who qualify (usually there are not more than four or five) are invited to bid on the work in accordance with carefully prepared tender documents. The firm submitting the most advantageous bid, price and other factors being taken into consideration, is then selected as the contractor.

This method permits the sponsor to exercise a degree of professional judgment in the selection process but, generally speaking, gives the business to the lowest qualified bidder. Anyone who has engaged in the selection of a contractor realizes that not all attributes of the candidates can be quantified, and that an element of judgment must enter into the selection.

On large project, the number of firms who can qualify is usually not over three or four. For large lump sum projects, on account of the greater risk, the qualification conditions are more strict and this tends to limit the number of qualified firms.

If a contract is awarded on the basis of a perfunctory bid, many headaches are in store for all concerned as the real details and magnitude of the job become apparent.

Many hours, or even weeks, spent in preparing the tender documents will be handsomely repaid in the submission of precisely defined bids and in the execution of the work with no addition or "extras".

Types of Contract - The Bank has participated in financing projects constructed under cost plus fixed fee contracts and under lump sum fixed price contracts and under various combinations of those. Each has its advantages and opinion is divided as to which is the best way.

In the cost plus a fee contract the owner cannot be sure what the total cost of the project will be until it has been completed. In the lump sum fixed price contract the owner cannot be sure of what he is paying for unless very detailed plans and specifications have been prepared and made part of the tender documents. Even so, the contractor must include in his price the cost of unforeseen contingencies which the owner pays for whether or not they occur.

Thus, it is argued, the cost plus fixed fee contract will probably cost less than a fixed price contract and work can begin sooner because it is not necessary to wait for all the plans and specifications before starting. But it is also argued that the designers, not limited by cost, are more likely to "gold plate" the job with resultant higher cost.

In the fixed price contract the owner knows ahead of time what it will cost, the final cost may not be any higher than it would be under a cost plus fee contract because the contractor ties up his sources of supply ahead of time and thus obtains more favourable prices, and, finally, if unforeseen contingencies do arise the contractor is obliged to absorb them. But it is also argued that the designers will tend to skimp on design to avoid an overrun.

If the contractor offering a fixed price has underestimated the cost, he is obligated to absorb the overrun. Few contractors can absorb a very large overrun, and a bankrupt contractor, or even one who is losing money is not an asset to any project. Hence, a fixed price contract may not be as valuable as it looks on paper.

Procurement - When the Bank or IDA participate in a project they require that goods and services procured with its funds be acquired through international

competitive bidding. Thus, vendors in all of the nations who have contributed to the funds of these institutions have an opportunity to bid on the job. A "Guideline" publication deals with procurement in more detail.^{1/}

It is surprising how this lowers the cost of a job. Somewhere around the world there is always a vendor or a contractor who needs work in order to hold his organization together and pay his fixed costs. He will make a low bid to insure that he will get the business. Both he and the project benefit from the deal.

In the case of lump sum fixed price contracts, the contractor is selected through international competition. Thereafter he obtains his goods and services from his own familiar sources, again, presumably at the lowest prices so as to assure himself the largest profit.

Some bilateral lenders require that their funds be spent in their own countries, usually through competitive bidding in that country.

When the Bank participates in a project it usually wants to review in advance tender documents for costly items, say in excess of 150,000 in value. For these large items the Bank also desires to review the contractor's analysis of bids and proposed award before any commitment is made to a vendor. For less costly items the Bank desires to review the documents after the award has been made. Since factors such as delivery time, delivered cost, availability of spares, power requirements, etc., as well as FOB cost may enter into the evaluation of bids, the Bank is at some pains to see that these are fairly and impartially applied. Generally speaking, contractors do a very good job in this respect and seldom has the Bank found it necessary to intervene.

Cost Accounting and Control - It is highly essential that owner, contractor and lenders know how that actual cost of a project compares with the estimated cost during the progress of the work, so that if actual costs deviate from budgeted costs some action can be taken to bring them in line, or at least, so that the reasons for the deviation are known promptly.

The first thing that is needed is a definitive estimate. The lump sum contractor will have prepared one as the basis for his bid and he may be loathe to let anyone see it, but it is in the interest of all concerned that he do so.

^{1/} Guidelines for Procurement under World Bank Loans and IDA Credits, May 1971.

A breakdown of the costs will be needed in any event for accounting purposes after the job is finished. On a cost plus fee contract a reasonably good estimate will have been required by the tender documents. After a few months of engineering work a fairly accurate estimate may be prepared as the definitive cost. If this is far from the estimate used as a basis for financing, the project should be carefully re-examined.

There is a good deal of experience in the records of contractors on the rate of expenditure of funds on jobs of given size, character and duration, and this can be used to construct a progress chart of estimated expenditures with which actual expenditures can be compared.

One of the difficult areas in cost control is to discover what is on the design engineers' drafting tables that, in effect, has already committed the project to certain expenditures, though there are yet no bills of material or requisitions or purchase orders to show for it. Good experienced contractors have ways of dealing with this problem, but even the best of them falter at times. Example: - A sponsor is planning a DAP plant. Engineering design shows that an 8 foot diameter rotary dryer will be barely large enough and this is what the definitive estimate is based on. The owner has in mind some future expansion and asks how much more a 9 foot diameter dryer would cost. Finding that the extra cost of the dryer is not very great, he asks the contractor to put in a 9 foot dryer. As time goes on, it becomes apparent that with roughly 25 percent more cross-sectional area the larger dryer will require larger fans, larger duct work, larger scrubbers, larger stack, a greater flow and recycle of DAP in process, larger screens, etc., etc., so that the total added cost is far greater than the cost of the larger dryer alone.

Timetable and Progress Charts - Most knowledgeable contractors use some variation of the critical path method of job planning. Sponsors would be wise to insist that they do so. But on a larger job this is usually too complicated for the uninitiated to comprehend readily. A series of simple charts plotting degree of completion against time (say by weeks) for the various phases of the job will be more readily understood than a critical path diagram. Those charts would show forecasted progress by a dotted line and actual progress by a solid line. Engineering progress could be based on man-hours expended, procurement progress could be based on cost, arrival of material at the job-site could be based on cost, and construction progress could be based on a combination of cost and man-hours.

Progress Reports - The many progress reports (and they should be monthly) are filled with declarative statements rather than comparative and analytical statements. As statement that "We have poured 3817 yards of concrete to date" is interesting but not very informative. As statement that "We have poured 3817 yards of concrete to date against a forecasted pour of 4500 yards. The shortfall was caused by a breakage of the drive pinion on the concrete mixer on May 24th. A replacement pinion was obtained from Bombay and installed on May 31st and we will work extra shifts to catch up with schedule" is much more enlightening.

Progress reports should inform the reader of the status of the project in such a way that he understands that the problems the project is facing and what is being done about them, as well as outlining accomplishments to date.

Expediting - Inevitably there will be delays caused by labour disturbances, mishaps in vendors' shops, unavailability of ships and the like. Knowledgeable contractors are usually very good in dealing with these.

Paperwork and bureaucratic procedures at ports of entry often cause substantial delays in unloading ships and/or in releasing equipment and materials from customs. Contractors with previous international experience usually are able to deal with these problems but the local sponsors can be very helpful in shortening these procedures.

All of these problems should be mentioned in the progress reports.

Pilferage - Theft is a problem at nearly all maritime ports. It is especially bad at some ports. Insurance companies are aware of these conditions and can offer helpful advice on reducing losses. A secure warehouse with guards around the clock is usually a good investment. This will also afford protection from weather, which is highly essential in some locations.

Construction Expatriate supervision should include men, especially at the lower levels, who can speak the language of the work force. Cordial relations with local contractors are essential. Sponsor's contractor and owner should cooperate in hiring local contractors and local personnel and especially in selecting promising individuals who can staff the plant when operations begin.

The owner should form a project team to work with the contractor from the beginning of the job so that they can assume the major supervisory staff position when the plant goes on stream.

Acceptance Tests and Guarantees - Plans for acceptance tests should be carefully drawn to show exactly how the test is to be conducted, how measurements are to be made and what the responsibilities of owners', contractors', and process vendors' personnel is to be.

Measurements for tests lasting only a few hours or few days are often very inaccurate. Longer tests, say a week, are far better indicators of what the facilities will do.

Few vendors or contractors offer guarantees in which their monetary liability exceeds their expected profits or fees. Loss of revenue if the plant cannot operate up to desired capacity is usually a far greater sum than indemnity from guarantees.

In short, contractor's and vendors' guarantees may not be as valuable as they look on paper, and while the maximum possible guarantees should be exacted from suppliers, owners can count on being reimbursed for only a fraction of their costs if equipment fails or processes do not come up to expectations. Tried and proven processes and equipment are best for use in developing countries, rather than 'improved' processes or equipment which hold promise of cost savings but have not yet been proven.

IV. Marketing and Distribution

Once the project has been approved, between two and three years will elapse before the new plant is ready to deliver product, and this period of time is apt to lull the sponsors into the belief that there is plenty of time to implement the marketing organization and marketing plans which were formulated as a basis for financing the project.

Implementing these plans takes longer than might be supposed. Hence, marketing efforts should begin immediately after financing of the project has been assured. These efforts will include:

1. Applying to the Government for the necessary foreign exchange and permit to import fertilizer for a seeding program.
2. Hiring the principal personnel who will manage the marketing.
3. Confirming arrangements with distributors and dealers.
4. Confirming arrangements for rail cars, lorries, etc.

Seeding Program - Gradually increasing tonnages of the kind of fertilizer to be produced in the new facilities should be imported so that by the time the

new plant comes on stream the marketing organization will have been handling and marketing the full tonnage to be produced and it will only be necessary to substitute the new local product for the imported material.

This period will show up weakness to be corrected or improvements to be made. With the best of plans, sometimes the forecasted tonnage cannot be absorbed in the chosen territory, or the price of certain crops will have declined to the point where farmers are unwilling to buy fertilizer, or bad weather may have reduced requirements and put farmers into a credit squeeze.

For export oriented plants, even with take or pay contracts, the purchaser may be unable to take and also for cogent reasons unable or unwilling to pay. In these cases the sponsors must decide whether or not to enforce the terms of the contract. An bankrupt customer is of even less use than one who is for the time being unable to honor his contract.

Credit - Even though a country may have made reasonable provisions for farmer credit, say through its Agriculture Bank, a few drouth years may render such a large percentage of their loans in default that the Bank is hampered in its operations.

The project itself may have to be far more lenient on credit than was planned. For these and similar reasons the Bank finds that provisions for working capital usually need to be strengthened.

All of these problems tax the ingenuity of an alert management but they indicate why the marketing effort should commence as soon as the project is approved.

V. Government Policies

The sponsors of a project, and the lenders, must be prepared for all sorts of political acts that may affect the progress and cost of the project or its revenues. Among these are the following:

Duty and Excise Taxes - Usually it is possible to reach some agreement with the Government on the rate of import duty, if any, that will be applied to materials and equipment during the life of the project. This is not always the case and there may be appreciable changes in the rate which substantially increase the cost of the new facilities.

Sometimes new excise taxes are enacted which have the same effect as duties. The bureaucracy which interprets the application of the taxes may equally become a thorn in the flesh.

Local Procurement - On occasion after a project is under way a Government has ruled that a stated percentage of materials and equipment must be obtained from indigenous sources. Few of these sources in a developing country are prepared to deliver the (to them) large quantities of some items in the time required. Occasionally the quality of the local production is not up to the desired standards. Sometimes the local suppliers are not accustomed to rigid compliance with code requirements. All of this requires an inordinate amount of time and attention from the procurement staff. On one project the procurement staff had to be doubled, even after the Government had been persuaded to relax its requirements on some of the more difficult items.

Protective Tariffs - Some countries protect their growing fertilizer industries by imposing a protective tariff on imported fertilizers or by decreeing that no fertilizer may be imported until indigenous capacity for similar products is fully utilised, or both.

The Bank would be loathe to participate in a fertilizer project which was forced to rely permanently on excessive tariffs in order to be viable. The protective tariff may be justified in the first few years of a project, but ultimately the project should be reasonably competitive with fertilizer delivered to the country at world prices.

Farm Prices - Some Governments regulate the maximum prices that the farmer may be required to pay for various grades of fertilizer. These Governments also regulate the prices which the farmer is supposed to receive for his crops, especially for major crops such as rice, wheat and maize.

While the maximum price of fertilizer may be reasonably enforced, the crop prices usually are not for the reason that local dealers often postpone buying the crops until the farmer is at the point of distress and then bargain for lower prices. The same dealer may be the source of farmer credit and therefore in a position to get his price one way or another (this practice has been going on from time immemorial and is not confined to developing countries). It is the small farmer who suffers most.

However, Governments have been known to change the ratio of prices paid for fertilizer to prices received for crops and such a change may drastically change the farmers' desire for fertilizer.

Subsidy - Some Governments subsidize the price which the farmer pays for fertilizer. In some cases, the subsidy goes to the fertilizer manufacturer; in other cases it may go to the dealers or farmers. If it is paid directly to the farmer he is at least aware that a subsidy is being paid and its amount.

Change of Government - Occasionally there is a drastic change in Government which results in a whole new set of officials who have to be familiarized with the project. If the facilities are in course of construction this may not be too bad. If the project is in its preliminary stages, there is almost inevitably a considerable delay. The new officials are apt to take the view that whatever the former officials did is wrong. Subsequent study usually results in an admission that not all is bad, and gradually the project gets back on the track.

If the new Government is committed to drastic changes in duties, tariffs, income taxes, repatriation of profits and the like, then the whole complexion of the project may change.

Fortunately, many countries have on-going projects in other fields (infrastructure, education, industrial projects, etc.) which no Government wishes to jeopardize. Nor do they wish to jeopardize past cordial relations with the Bank or with other institutional lenders. This tends to temper actions which might be taken by a relatively new Government.

Summary

In a short paper on Bank experience in financing fertilizer projects, it is somewhat difficult to choose the topics that deserve mention. The mere inclusion of some and exclusion of others lends an emphasis which may be more apparent than real. The foregoing comments are all inspired by events that have caused problems in one project or another. They do not pretend to be a comprehensive view of Bank experience.



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SUMMARY

FINANCING NEW FERTILIZER PLANTS -
EXPERIENCE OF THE WORLD BANK GROUP^{1/}

by

World Bank Group
Washington USA

The paper describes the nature of the problems frequently experienced during the preparation and execution of fertilizer projects financed by the Bank Group (the Bank plus its two affiliates, the International Development Association and the International Finance Corporation). It also describes how these problems have been dealt with, and formulates some general recommendations with regard to implementing fertilizer projects in LDCs.

The main problems fall into five broad categories:

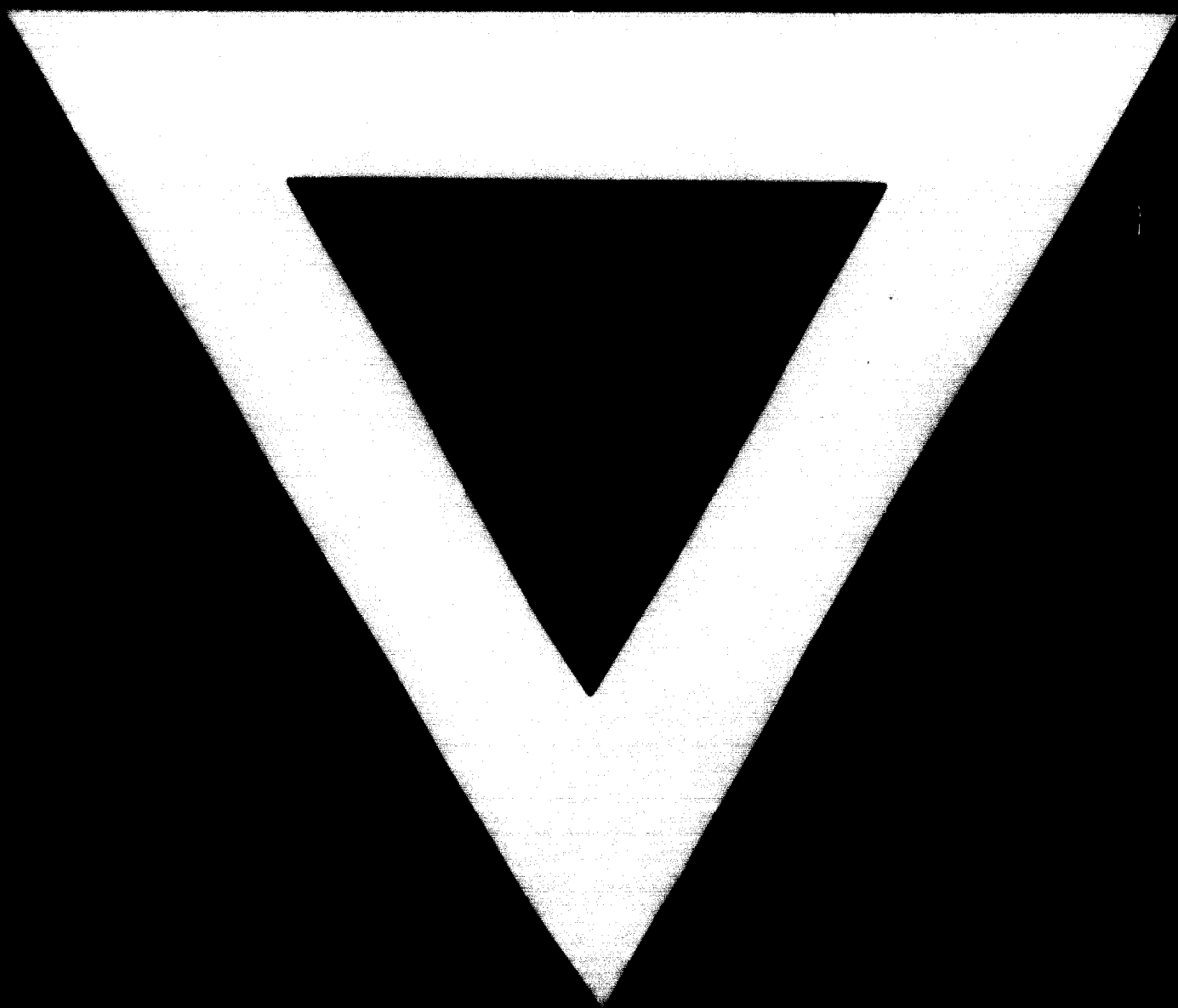
- (a) project preparation (survey of raw materials supply, market projections, marketing and distribution arrangements, estimates of capital costs and financial projections);
- (b) financing plans;
- (c) project execution (responsible staff and technical advisers, choice of contractors, procurement, cost accounting and control, control of project progress, acceptance tests and guarantees);
- (d) marketing and distribution (seeding programs, transportation, sales arrangements credit).

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(e) government policies (protection, local procurement, farm prices, subsidies).

Bank Group assistance has often been provided in connection with market analysis, marketing and distribution, financial projections, price policy, finding other sources of finance, and procurement procedures.





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