

CHAPTER SEVEN

Chapter Seven

CONCLUSIONS AND POLICY IMPLICATIONS

7.1 Conclusions

From the findings of the analysis of project management in the Sudanese public sector industry and the Indian fertiliser industry of the Government sector, one may conclude that the experiences of both the countries in the last fifteen years was unsuccessful. The magnitude of the failure in this regard, which was measured by delays, is more serious in India than in Sudan. Implementation delays of Sudanese projects were serious but to a lesser extent than in India. This is mainly attributed to two factors, viz., fertiliser projects were more capital-intensive than the agro-manufacturing and leather projects undertaken in Sudan, and the Indian indigenous agencies involved in the process of project management in fertiliser did not acquire adequate experience in the early 1970s to successfully plan and implement the projects while all Sudanese industrial projects of the Government were implemented on turn-key basis by foreign experts.

The failure in project management resulted in tremendous

cost overruns, made the societies of the two countries to miss production for years and years and the Government to miss profits envisaged during the delayed period.

The analysis undertaken revealed many pitfalls in the procedures of project formulation, evaluation and implementation of public sector industry in Sudan and Government fertiliser industry in India. These pitfalls resulted in the delays and cost overruns of the projects and retarded the development process of both the countries. Sugar and textiles in Sudan, and fertilisers in India, had to be imported to fill the demand-supply gap. On the other hand, the Governments of Sudan and India had to forego the profits envisaged from the delayed projects which should have been re-invested to accelerate the development tempo in the two countries.

The procedures and practices for evaluation of private sector industrial projects in Sudan and India are also not sound. This resulted in wrong locations of factories and inefficient performance of industry in Sudan and unbalanced regional development in India. The pitfalls in project management in Sudan and India respectively are summarised below.

7.1.1 Sudan Experience

7.1.1.1 Project Formulation

Although the Government industrial projects of the 1970s were carried out within an overall socio-economic plan, they did not emanate from the plan itself. Most of them were not preceded by feasibility studies. The broad pre-feasibility studies of some projects prepared by ad hoc committees and the unsound feasibility studies of others could not foresee the needs for funds and infrastructure which themselves were scarce.

The textile projects skipped the feasibility study, a crucial exercise at a critical stage of the project cycle. The Government only conducted feasibility studies for the sugar projects. Demand for sugar -- a necessity with no close substitute -- in Sudan was more pressing than that for textile which has many substitutes coming from abroad. Therefore, it is more logical to conduct feasibility studies for textile projects if only to estimate the demand. However, any project -- even with a high predictable and inelastic demand -- should follow a feasibility study to work out the economies of indigenous production vis-a-vis its import.

In project formulation, there was no participatory approach which involved interactions of the agencies that took active part in the process of project management. The PB,

the Regional Government, citizens in the vicinity of project location and suppliers of infrastructural services during implementation were not asked to participate in the early stages of project studies. Therefore, only foreign contractors drew detailed implementation schedules while indigenous contractors and suppliers did not do the same. This fact rendered the monitoring system ineffective resulting in delays and cost overruns.

The termination of the public sector industrial projects of the 1970s was not planned. Project staff recruited received their payment from project budgets. Therefore, they were faced with an insecure future which resulted in high turnover, particularly among the engineers and follow-up officers whose services were crucial for successful implementation of the project. Compensation of such cadre could only be at high cost, and new employees took more time to cope with, and solve, emerging problems.

The feasibility studies of the Government projects were prepared by foreign contractors who knew very little about Sudan. Indigenous contractors and Government organisations were not made counterparts to them. Therefore, the local needs of the projects were undermined to the extent that the projects faced many shortages and bottlenecks during implementation which led to long gestation periods and high costs.

The studies of the projects depend mainly on data supplied by the Statistics Department about the economy and society of Sudan. But because of its insufficient facilities, project formulation in the public and private sectors depends on estimates and projections. In addition, there is no regulation to govern indigenous consultancy houses for conducting feasibility studies. These facts could only lead to bad planning and misallocation of the scarce resources.

The PPU depended on UNIDO and World Bank publications to prepare industrial feasibility studies. These guidelines provide the generally agreed-upon principles of project formulation, but the format of the studies and items to be given more emphasis in the feasibility need special identification and call for a special guideline to suit Sudanese socio-cultural milieu.

7.1.1.2 Project Evaluation

The feasibility studies of the public sector industrial projects of the 1970s were evaluated by foreign agencies. Indigenous agencies and Government organisations were not made counterparts to the foreign contractors; this led to unsound evaluation to the extent that pitfalls and local needs, undermined in the formulation stage, were not detected.

The PPU staff are not qualified to properly conduct evaluation analysis. Therefore, discounting techniques are only paid lip-service while social aspects such as air and water pollution are not at all considered by the evaluators. This is so while there is no shelf of project alternatives to enable competition among the projects and, hence, achieve better allocation of the scarce resources. All these pitfalls led to lop-sided development of the country. Consequently, the Planning Department of Sudan had to heavily subsidise these projects -- at their operation stage -- as they were unable to pay salaries and wages of the employees, let alone to generate profit to service their debts and to re-invest the surplus to accelerate development.

The evaluation process of private sector industry is not better than that of the public sector's. All the licensing Acts centralised the decision-making power with the Minister and provided very broad criteria which were not ranked according to priority. The social aspect of air and water pollution control was completely ignored by the Acts. The staff of the SGI were not well trained in project evaluation while no regulations exist in the country to organise and control consultancy houses for preparing feasibility studies. In addition to these, concessions granted are not linked to the industrial policy of the country.

The term-lending institutions, namely the IBS and the SDC

also ignore social aspects and concentrate more on the financial ability of the promoter to pay back the debt. This is violation of the Murabaha system which calls for evaluating the project and selects the one which mobilises country resources, alleviates unemployment, be responsive to society need, promotes balanced regional development and initiates general economic growth in the country.

The result of all these shortcomings is slow growth of industrialisation and wrong locations of projects. Three decades since Sudanese independence (1956) and the country is still neither industrial nor industrialising. Industrial projects and term-lending assistance concentrated on the Khartoum Commissionary and the Central Region while rural areas and backward Regions were neglected. This might have resulted from the fact that facilities and services from inputs, transport, health, education and infrastructure are concentrated in the Central area of Sudan while the backward and rural areas which are far from the Centre and, hence, from the facilities and services, are not attractive to the private entrepreneur. This initiated an exodus of population from the rural and backward areas to the Khartoum city which led to further shortages of the already inadequate services and facilities. Therefore, the agricultural produce -- because of shortages of labour force -- was affected.

7.1.1.3 Project Implementation

The PB, the organisation which was responsible for monitoring and supervising the 1970s industrial projects of the Sudan Government, played no role in the formulation and evaluation of projects. Therefore, no wholistic approach to project management was built and the problems emerged during implementation took more time to be dealt with and solved as the PB was not familiar with the projects from their start. This could only lead to delays, cost overruns and more problems.

The frequent organisational changes of the PB resulted in frictions, misunderstandings and procedural delays. In these organisational changes, the roles and authorities of the agencies taking part in implementation were not clearly defined. Therefore, no adequate implementation schedules could be planned. This hindered the proper functioning of the monitoring system because progress reports did not contain the right information.

The centralisation of authority over money with the Ministry of Industry and the Ministry of Finance and Economic Planning reduces the PB to a more or less status of a post-office to transmit requests from lower levels to higher levels and back. This retarded implementation and demoralised the PB staff.

While the scarce funds which were not properly estimated for individual projects resulted in delays and cost overruns, the payment of money through the request of payment which is a long process discriminates against indigenous contractors. Any comparison of performance of indigenous and foreign contractors will be biased against the former group.

In a nutshell, the cumulative effect of the failure in project management of industry in Sudan is a slow, unbalanced socio-economic development.

7.1.2 Indian Experience

7.1.2.1 Project Formulation

Project idea of the public sector industry emanates from the Five Year Plan. Pre-feasibility and feasibility studies of the projects are prepared by the administrative ministry supported by the enterprise concerned. This, no doubt, helps in linking the projects to the Five Year Plan and, hence, to development objectives. But necessary and accurate information is not available at the identification stage. Therefore, initial studies depend on assumptions and estimates which may not be fully realised in time.

Another problem faced at the early stage of project formulation is that national parameters used by appraisers such as premium on foreign exchange and cost of labour are not available to project authorities, i.e., there is a communication gap.

Therefore, initial steps taken for site investigation and selection before evaluation could only be changed later at high cost if the evaluators, using national indicators, find that the project is unfeasible.

Thirdly, project authorities have an attitude of intentionally underestimating capital cost of the projects. This is to make the project acceptable to the Planning Commission of India. Later on, they approach the Planning Commission to approve the cost overrun. As the project is in midstream, with millions of rupees already invested in it, the Planning Commission has no alternative but to agree. This finding is specially true of fertiliser projects.

A fourth problem and one of the major causes of delays is the lack of effective coordination, at formulation stage, of the efforts of agencies taking part in implementation and commissioning stages. This resulted in long gestation periods for fertiliser projects of the Government sector.

A fifth problem had to do with politics. Some badly formulated projects are lined up for approval on political considerations. They are accepted by Government authorities to attract public attention. Later on, shortages of inputs, funds, services, etc., develop and necessitate modifications which suffer from long gestation periods and tremendous cost overruns and are sick-at-birth.

7.1.2.2. Project Evaluation

The PIB is empowered to consider pre-feasibility studies of the big Government projects and decide on projects which should go to feasibility stage. This power, however, is not used effectively because of a lack of focus of decisions as many documents and reports scattered should be collected to make prompt decisions. This led to long meetings before a decision is taken which means delaying the project management process.

The PAD of the Planning Commission is the main evaluating agency of the Government projects. No shelf of project alternatives is available so that projects may compete for the scarce resources. The appraisers only compare the situation with and without the project. This does not lead to optimum allocation of country resources among the projects.

As far as evaluation of private sector industrial projects is concerned, the licensing procedure is very time-consuming. Some licensing committees are composed of the same members which means circulating project proposals and studies many times among many groups consisting of the same persons. Only the chairmanship of these committees changes.

The IDBI, the IFCI and the ICICI are the main term-lending institutions which lend term-finance to private sector industry in India. In evaluating the entrepreneur, they concentrate

on his financial ability to pay back the debt. This overshadows the ability, or otherwise, of the project to meet development needs. Lending of money itself is linked to the development needs as defined by policy makers and planners of the country, viz., developing backward areas. But the ability of the big business houses to easily get licences for the more developed States, coupled with the emphasis of the term-lending institutions on the financial ability of the promoter, resulted in the fact that the chunk of assistance has gone to the more able States, not to the needy ones.

7.1.2.3 Project Implementation

The pitfalls in project formulation and evaluation stated above resulted in unsuccessful implementation. The implementation of Government fertiliser projects in the 1970s was carried departmentally. While the FCI did not acquire enough experience to achieve successful implementation some of the contractors also lacked the experience. These resulted in modifications in the projects, delays and cost overruns.

Not all the project managers in the fertiliser industry are acquainted with network analysis and the use of its techniques such as PERT and CPM. Therefore, planning and monitoring of implementation were ineffective which led to long gestation periods.

7.2 Policy Implications

It is advisable that Government industrial projects in Sudan and India should emanate from, and directly linked with, the national plan and development objectives. Scientific and careful exercise should be undertaken throughout the project management process. National parameters should be laid by the planners and communicated to project formulators to be used from early stages. A post-audit report and performance report after operation (post-project evaluation) is equally important to assess the accuracy of the early exercises and to have a feedback. This feedback should be used to improve upon future project management practices.

The attitude of project managers needs to be changed so as to view project management in a development perspective. Government projects should be part and parcel of the national plan. Cost-benefit analysis, financial analysis, detailed project planning and control should be part of the whole project management system. The present practice in universities and schools of management, where capital budgeting is taught separately -- as a unit -- in finance course and network analysis techniques such as PERT/CPM as a unit in operations research or production management course, should be changed. A full-fledged course of project management is really needed and advisable to develop the attitude and equip the students with necessary background knowledge from early stages if

successful project management, and hence, accelerated socio-economic development of both the countries -- Sudan and India -- is to be attained.

7.2.1 Policy Implications for Sudan

7.2.1.1 Project Planning

Government industrial projects should emanate from a national plan and their formulation should be the responsibility of the Ministry of Industry. In the formulation stage, agencies who are to supply input and services during implementation and commissioning stages and the Region -- where the project is located -- should be invited, not only to secure their support and/or services later on but also to make use of their ideas. This helps in drawing, and being committed to, complete schedules for planning and controlling implementation. The Industrial Sector Wing in the Planning Department may be consulted in the formulation stage to supply national parameters and guidelines.

The Statistics Department should be equipped with enough and good facilities and qualified cadre to enable it prepare accurate, reliable and timely data about Sudan economy and society. Thereafter, the Planning Department is to make use of such data and estimate accounting prices and economic indicators for Sudan which are to be communicated to the

Ministry of Industry and project authorities for using them in the preparation of pre-feasibility and feasibility studies. Such estimates should be periodically updated to allow for environmental changes.

Rules and regulations should be laid for organising consultancy houses so that projects are prepared by qualified experts. As Sudan still lacks expertise in project formulation in some areas, foreign know-how may be purchased but the Ministry of Industry and indigenous consultants should be made counterparts to the foreign houses. This helps in incorporating the local needs of the projects and allows the Ministry of Industry and the indigenous consultants to acquire useful experience to carry over such exercises in the future. The PPU should prepare and circulate guidelines for project preparation.

To secure the future of the employees, project termination should be planned and their placement after project completion should be clearly stated.

The PPU should be the main evaluating agency of the Government industrial projects. The evaluation process may be carried in two stages -- pre-feasibility and feasibility. A time limit for each stage should be stipulated. The PPU may make use of foreign expertise but its staff as well as indigenous consultancy houses should be counterparts to the foreign contractor to gain experience. Discounting techniques

and cost-benefit analysis to the possible best should be used and the appraisers should weigh social aspects and see to it that air and water will be left unpolluted.

7.2.1.2 Licensing and Private Sector Project Evaluation

The licensing system should be reorganised to allow sound evaluation of industrial projects. It is advisable that project proposals should be scrutinised by the Ministry of Industry and sent, after recommendations, to the Minister who recommends and passes the documents to the Committee. The final approval, or otherwise, should be of the Committee. The evaluators should be trained in project evaluation. The social aspects should be considered and the evaluators should see to it that air and water pollution control norms are insisted upon.

In licensing, criteria for project selection should reflect development needs and industrialisation objectives (e.g., linkages, employment generation, pollution control etc.). These criteria should be ranked according to priority. Project selection should be based on these criteria, and concessions should be granted on discriminatory basis according to the points a project scores in the criteria. In this respect, the Planning Department should clearly define backward Regions and areas where industrial and other types of

investments could be encouraged. Backward areas themselves may be grouped according to the backwardness and further discrimination be used accordingly in project selection and grant of concessions. Term-lending institutions also should follow the same system, and their evaluation should concentrate on project viability.

The Murabaha system, followed by the IBS and the SDC, should be practised according to its principles. The appraisers should concentrate on financial return expected, social needs to be met by the project, promoter's initiative and planning and social responsibility concern. In this respect, the non-interest banking system, which is not at all taught in the class room, should be incorporated in the curricula of economics and business schools so that students will acquire a theoretical background of what they will practise later on. The term-lending institutions should directly assist supervise and monitor implementation and management of the projects which they finance on sound lines on sustained basis. Results of this follow-up process should be compared with plans and early studies to improve upon the practice of industrial project formulation and evaluation in the future.

7.2.1.3 Project Implementation

Implementation of Government ongoing industrial projects should be the responsibility of the enterprise. However, new

projects should be the responsibility of the Ministry of Industry. This assures the continuation and link of the stages of project management process by assigning the responsibility of implementation to those who prepare the project so that they are aware of its nature and needs. Authorities and roles of the different agencies taking part in implementation should be clearly defined, and adequate powers should be delegated to enable on-the-site decisions. Master schedule and activity schedules of suppliers and contractors should be prepared in advance and adhered to. Project managers should be carefully selected and adequately trained in various tools of project planning and management to enable sound implementation, planning and control. Reporting should be frequent and prompt solutions of problems and feedback should be obtained to gain useful experience.

Payment of money should be through the letter of credit and foreign as well as indigenous contractors should be treated equally in this respect. While penalty clauses guard against defaults, incentive clauses for contractors should be incorporated to encourage successful implementation. Likewise, project authorities should be credited when a project is successfully implemented.

While the above policies and measures are thought to achieve successful project management and, hence, accelerate industrial development in the country, it is more advisable

that the Government should plan and implement an equitable distribution of infrastructure and other services to uplift the rural and backward areas. This helps in attracting investors and in reducing/discouraging migration to the capital city of the country to achieve balanced development.

7.2.2 Policy Implications for India

7.2.2.1 Project Planning

It is advisable that information at project identification stage rely on accurate estimates so that project results later on may not deviate from what is envisaged. The past may not repeat itself into the future. Therefore, the Department of Fertilisers should do more advance planning and make keen exercise to forecast trends, price changes, input availability and other variables by using modern forecasting techniques. National parameters used by the PAD in the evaluation stage should be communicated to the administrative ministries and Government enterprises so that a link be made between the early stages of the project and the evaluation stage. This guards against deviations of project results at later stages and develops a wholistic perspective of project management.

The Department of Fertilisers should prepare a basket of feasible alternatives with detailed estimates. This gives

the PIB and other evaluating agencies a wide choice to select the project which scores high in the evaluation process, hence, achieves better allocation of the country's resources.

Estimation of capital cost of the projects needs to be realistic. The Government fertiliser corporations, enterprises and administrative ministries should start with a prudent choice of a project and do pragmatic costing. Data banks need to be set up to avail reliable and timely data. Then, planners should set an outlay which is commensurate with available resources.

Early coordination of all efforts to supply the input or critical project services should be made by the administrative ministry. This is advisable to be made long before a proposal is submitted to the appraisers for clearance.

A forum, similar to the PIB, should be set to collect all documents and reports at the pre-feasibility stage and make prompt decisions. A definite time schedule should be set up for this stage to minimise procedural delays.

7.2.2.2 Licensing and Private Sector Project Evaluation

Agencies involved in licensing, foreign exchange, imports and customs should be involved in the forum mentioned above to minimise time taken in the evaluation process.

Different licensing committees of same membership should be unified to minimise delays. Strict evaluation of the proposals of companies associated with big business houses should be made so that only deserving projects may obtain a licence.

Entrepreneurial evaluation process by the IFCI, the ICICI and the IDBI needs to be completely changed. For sound evaluation:

- (1) The subjectivity in evaluation should be reduced and the interviewers themselves should have a guideline to show them methods to be adopted, characteristics and aspects to be evaluated.
- (2) It is advisable that a scheme of weightages for the important characteristics and a cut-off point and scoring system be evolved and followed. Successful project management and performance of project operation is expected if an entrepreneur possesses managerial knowledge, practical experience and has a long business background. Information serviced by the application form should take care of such assessment.
- (3) Planning orientation, e.g., drawing alternatives, project and industry data updating, goal setting and project construction activities may be assessed by an interview panel following a scoring system.

(4) Managerial capabilities should also be assessed through the interview and the scoring system. The entrepreneur should be the interviewer if he will manage the project -- otherwise, his employee (the manager) should be interviewed to assess his managerial capabilities.

7.2.2.3 Project Implementation

In the detailed project report of Government fertiliser projects, scarce construction material such as cement, petroleum, steel etc. should be keenly planned. The selection of suppliers who deliver the materials should be made on the basis of their proven ability to deliver the good -- not on the basis of low-price bidding. This helps in securing prompt delivery of materials and smooth implementation. In the contracts, penalty as well as incentive (rewards) clauses for default and successful implementation respectively should be included and imposed.

Project managers should be trained in network analysis to apply techniques such as PERT/CPM to successfully plan and control implementation. The detailed project report should be based on realistic activity time scheduling (RATS) while implementation should be based on compressed activity time scheduling (CATS). In RATS, schedules are built on realistic time estimates but in CATS, implementers strive hard to execute assignments in shorter than their scheduled

time. Unforeseen delays may be absorbed by the gap in between these two schedules. Project authorities should be rewarded if they were able to implement the project according to RATS; if they were able to achieve CATS or earlier than that, an additional bonus should be given. This same system should be carried for planned and actual project implementation costs.