CHAPTER SEVEN

SUMMARY AND CONCLUSIONS
The study has been concerned with project appraisal in HSIDC, appraisal of HSIDC projects by ICICI, IDBI, and IFCI, and appraisal of projects in terms of UNIDO Guidelines (1972) for social cost-benefit analysis.

Established in 1967, HSIDC has made significant strides in promoting industrial development in Haryana. It has promoted 42 projects in public, joint/assisted sectors costing Rs. 2079.17 lakhs by March 31, 1989. Its term lending cumulated to Rs. 6511.42 lakhs in terms of sanctions and Rs. 3582.75 lakhs in terms of disbursements by March 31, 1989. The disbursements have been made to 65 projects. An analysis of time trends on the basis of mathematical models, with maximum $R^2$ value, shows increase over time, albeit with annual fluctuations, in all the following variables except employment potential: 1) total assistance sanctioned, 2) total assistance disbursed, 3) assistance sanctioned to backward areas, 4) assistance disbursed to backward areas, 5) total investment made, 6) total employment potential, 7) total expected sales, 8) investment made in backward areas, 9) expected sales in backward areas, and 10) employment potential in backward areas (Annexure II to Chapter one).

The model of project appraisal of HSIDC projects has been examined in Chapter four. On the basis of various documents of HSIDC, ICICI, IDBI and IFCI, and interviews with the officials, it was found that HSIDC appraises
technical and marketing feasibility of projects. The financial appraisal, the central concern of this study, in HSIDC was confined to aspects such as promoter contribution, debt to equity ratio, debt coverage ratio, debt-service coverage ratio, repayment period, break even capacity utilization, and analysis of working results. HSIDC does not have any formal system of social cost-benefit analysis. However, the extent of employment generation, and development of ancillaries is estimated. Emphasised too are location of the project in a backward area, import substitution and export promotion.

The national DFIs do use discounted cash flow techniques in appraising SIDC projects costing more than rupees three crores. They also carry out social cost-benefit analysis on the basis of partial Little and Mirrlees' methodology for the projects costing more than rupees five crores. The resources are divided into tradeables and non-tradeables. The non-tradeables are converted at border price by using a standard conversion factor of 1.5. They compute economic rate of return, domestic resource cost, and effective rate of protection.

The main objective of this study was to develop an operational methodology for a full-fledged social cost-benefit analysis of industrial projects in India based on UNIDO Guidelines (1972). A widespread feeling is that the
information requirements of UNIDO Guidelines are so much that it cannot be applied in case of the developing economies. An attempt has been made to formulate an operational methodology along with suitable computer programmes in this study (Chapter three). The effort is nearly as comprehensive as the methodology illustrated in the case studies appended to the UNIDO Guidelines (1972). An extensive survey of literature (Chapter two) leads us to believe that project appraisal based on the methodology of UNIDO Guidelines developed here, will provide for a satisfactory social cost-benefit analysis. This notwithstanding the existence of several methodologies such as those of Balassa (1965), Bruno (1965), Little and Mirrlees (1968, 1974), Prou and Chervel (1974), Squire and Vander Tak (1975). Application of this methodology to the projects of HSIDC (Chapter five) answers the question, 'what would be the social cost-benefit implications of projects selected by HSIDC?'

To build the information base for the social cost-benefit analysis, detailed data have been collected regarding 19 projects out of 42 public, joint/assisted sector projects, and 65 private sector projects of HSIDC, which have been accepted up to March 31, 1989. The sample projects represented various industrial activities, sectors and area. Out of these 19 projects, nine are in
joint/assisted sector and ten in private sector. Seventeen out of 19 projects are located in backward areas. Out of these 19 projects, three projects each are from the automobile ancillary and chemical industries, two each from electrical/electronics and textile industries, one project each from the glass and ceramic, paper printing, and steel tube industries, and six projects are from the engineering industry.

The data for social cost-benefit analysis were collected from project appraisal notes and project files of HSIDC and IFCI. In view of the extensive data required for social cost-benefit analysis, and consequent problems in data collection, the choice of the projects for study has been based on the criterion of availability of data rather than on the statistical sampling technique.

The social cost-benefit analysis of HSIDC projects has been done in several stages in Chapter five. In the first stage, benefits and costs due to the project are calculated at market prices to estimate the net aggregate consumption benefit (Chapter three; equation 3.1). The market prices reflect the social opportunity cost. The second stage involves the adjustment of the market prices of specific resources. This has been done wherever these prices do not reflect the real contribution of the resources to the net aggregate consumption objective. At this stage,
adjustment in the prices of three resources, namely foreign exchange, skilled labour and unskilled labour have been made (Chapter three, equation 3.2). Foreign exchange component of costs and benefits has been adjusted upwards by 20%, 25% and 30%. The cost of unskilled labour component has been adjusted downwards by 0.5 and 1.0, and that of skilled labour has been adjusted upwards by 0.5 and 1.0. At the third stage, the fact that the social value of a rupee of investment is more than the social value of rupee of consumption has been taken into account. To evaluate indirect future benefits and costs of the project, the net aggregate consumption benefits have been divided into two components consumption and investment. The investment component has been adjusted for shadow price of investment (Chapter three; equation 3.3). The shadow price of investment is dependent upon marginal propensity to save (0.20, 0.22, 0.24), marginal productivity of capital (0.12, 0.15, 0.18) and social rate of discount (0.10, 0.12, 0.15). Thus, we had 27 values of shadow price of investment.

Thus, the projects were evaluated in terms of the aggregate consumption benefit criterion 'C'. It takes into account the net present value of the investment calculated on the basis of social rate of discount, shadow prices of various resource flows such as foreign exchange, skilled labour, unskilled labour and investment, as suggested in the
UNIDO Guidelines (1972). The switching values of social rate of discount have been computed in a sensitivity analytic framework. For each project, there were 108 switching values of social rate of discount.

The other national objective is development of backward areas. The projects were also evaluated in terms of the contribution of redistribution benefits to the underdeveloped areas of Haryana. The premium that is necessary on the redistribution benefits of projects to make them socially desirable has been computed in a sensitivity analytic framework.

Would there have been any difference in project choice had HSIDC used the operational social cost-benefit methodology used in this study? To answer this question, following assumptions are made:

(i) The social rate of discount is 15%.

(ii) The original estimates of output prices, capital and operating costs, and capacity utilization, made by HSIDC are correct.

Afterwards, the projects under study can be classified into three groups on the basis of the estimates of minimum and maximum values of 'C' for each project:

Group I : Projects whose C-minimum is positive;

Group II : Projects whose C-minimum is negative but C-maximum is positive;

Group III : Projects whose C-maximum is negative.
It is observed that ten projects had positive aggregate consumption benefits under the most unfavourable combinations of values of national parameters that are considered in this study. It can be concluded that these projects would have been accepted if the social cost-benefit analysis was done during project appraisal by HSIDC. Five projects had negative value of aggregate consumption benefit under the most unfavourable combinations of values of national parameters. But they could have had positive value of aggregate consumption benefit under the most optimistic combinations of values of national parameters. One of these five projects is in a developed area. The remaining four are socially viable under the least favourable combinations of values of national parameters and that too if a reasonable positive premium is given to the net benefits flowing to the backward areas. It must be noted that redistribution benefits have been estimated conservatively without taking into their multiplier effects. Therefore, it can be safely concluded that all the four projects of Group II located in the backward areas would have been selected, if social cost-benefit analysis was used in the project appraisal by HSIDC. The Oil Field Equipment Project located in a developed area is viable only under the most optimistic assumptions. Perhaps, this project would not have been selected if its social cost-benefit analysis were done. The
project could have been selected if it were to have better managerial performance in terms of reduced capital and operating costs and increased capacity utilization.

The projects belonging to Group III are not acceptable even under C-maximum criterion unless high premium is attached on the redistribution benefits and attempts are made to improve the managerial performance in terms of cost reduction and increased capacity utilization.

All these four projects, whose social viability appears to be doubtful, are import substitution projects. It appears that import substitution objective has been unduly emphasised in the project choice in these cases.

In sum, it can be said that if social cost-benefit analysis were done, some of the decisions, particularly those in the name of import substitution, might not have been taken. The analysis would have, atleast, favoured a management style with stronger built-in-system for cost control and capacity utilization.

It follows from this study that social cost-benefit analysis under a sensitivity analytic framework for project appraisal in Haryana is feasible. It sharpens the project choice decision. It provides information for better project implementation and control.