

EXECUTIVE SUMMARY

1. There are 5 large units in the organised sector turning out 41% of the value of production, and 83 units in the small scale sector, both producing a variety of printing machinery and softwares for Desk Top Publishing and computerised typesetting. There are 8 units which have foreign collaboration. Total investment is over Rs. 4140 lakhs. Royalty/lumpsum paid to foreign collaborators in 1988 is estimated at Rs. 185.5 lakhs. The value of production in 1989 was Rs. 98 crores. Exports in 1986-87, 1987-88 and 1988-89 are Rs. 5.62, 13.8 and 17.8 crores respectively, and is likely to rise to Rs. 30 crores in 1990-91. Given positive encouragement and necessary inputs, value of production can go upto Rs. 300 crores with Rs.100 crores export, per annum.
2. Custom-built jigs and fixtures, machinery like lathes, drilling machines and test equipment constitute major elements of indigenous and imported machinery, required for manufacture of the items. Adequate infrastructure exists in the country for casting side frames, manufacture of gears, parts, rubber rollers, etc. Barring a few leading manufacturers, the investment in plant, machinery and tool room is not adequate, specially in the small scale sector.
3. Printing equipment and machinery constitutes numerous machines of different specifications depending on end use. In the diversity of models and machinery being produced, no common specifications are drawn in respect of components/sub-systems which may be similar to a majority of models. Invariably, the specifications adopted are based on parts specifications detailed by collaborators, where such arrangement exists. In other cases, parts are reverse engineered for supply by vendors.
4. Component parts that are technically feasible but economically not viable for indigenous manufacture at present include large die cast parts, accessories and computer hardware due to high cost of R&D, costs of moulds, dies and other initial expenditure. A large number of components for printing machinery manufacture like preparation of drawings, pattern making, casting, web aligner, dryers, sheeter and control boards, need to be sub-contracted to specialist-vendors. Low quantity order arising from low scales of operation inhibit potential vendors taking up production of parts. Sub-contracting in Indian printing machinery manufacturing industry is around 11% on the whole, which can be increased to 40% aimed at specialisation in electronic components and growth of ancillary industries. Vendor base therefore, requires to be built up on priority. Components commonalisation in various models to the

extent possible will strengthen vendor development on viable and economic basis and help in reducing cost of production and improve after-sales service. Ancillary units could be allowed to import components used in feeders, chillers, dryers and offset presses and accessories for manufacture of quality sub-assemblies for improved machine performance.

5. The hand and auto fed letterpress printing machines, based on old technology is gradually superceded by offset printing process. Majority i.e. over 50,000 being tiny presses, even if fraction of them modernise, as quick print shops with small offset machines using electrostatic paper/foil masters, under soft terms of credit, demand for offset printing equipment will be enormous.
6. The printing machinery industry is still dependent on imported knowhow and import of critical components with different models in existence without a proper technical back-up by way of research, development and standardisation. Imported technology is mostly of (East) German and Czechoslovakian origin over which considerable technological advancements have taken place in Japan & (West) Germany. The reliance on collaborators or foreign parties with whom tie-up arrangements exist is mainly for drawings, components/parts, tooling, dies, assembly and testing. The industry lacks development of new techniques in the absence of domestic research and development activities in printing machinery manufacture. In view of these existing technology gaps, manufacture of selective areas like film, polymer and direct offset plates, blanket, multi-unit sheet fed offset presses, are suggested for securing foreign collaboration/knowhow. However, a close evaluation is suggested for purchase and absorption of foreign technology procured and it's utility for Indian conditions and export market.
7. The areas in which technology gaps exit include hardware and laser outputting devices for typesetters, power pack, specialised microprocessor chips, softwares for page make-up and graphics, process camera lens, screens and filters, diazo compounds, direct image and polymer plates, efficient paper feeders, precision bearings, offset blankets, colour registration controls, driers and chillers for multicolour offset presses, automatised binding equipment like flowline, energy saving devices by which productivity can be increased.
8. The indigenisation of components is governed both by technical feasibility and economic viability in terms of demand at a time. Components/parts which are both technically and economically viable for indigenisation include side frames, gears, sheet metal pressed parts, general purpose ICs, wiring harnesses, motors and pumps, transformers, switches, halogen lamps, rollers and rubber parts.

9. Use of energy conservation devices and manufacture of such devices for printing industry is advocated.
10. The industry has not built-up sufficient strength in R&D for original design and development. Availability of R&D facilities including manpower with necessary expertise is scarce and needs to be strengthened. Besides using available infrastructure and National laboratories and sponsored projects, setting up cooperative, non-profit making Centres for printing machinery design and manufacture is contemplated.
11. In view of the modernisation of printing presses both in India and neighbouring, developing countries consequent to increasing literacy and industrialisation and by change over to computerised typesetting and offset printing, the export potential is very encouraging. This should be tapped beneficially by Indian manufacturers, especially when cost of manufacture in India is lower.
12. Major items of raw material of day-to-day use in the user-printing industry like phototypesetting paper, film, polymer and direct offset plates and offset blankets are imported, involving considerable foreign exchange. Serious efforts are therefore called for to manufacture them indigenously, seeking knowhow/foreign collaboration or by undertaking basic research.
13. Concerted drive towards improved models, quality control in the manufacture of printing machinery is needed towards increased output and better quality of production to compete in international market. Deployment of foreign experts in Indian industry could improve quality of Indian products.
14. Majority of the Indian printing presses do not have maintenance facilities of their own due to economic consideration. As such, after-sales service, even after warranty period, is necessary but lacking. As such, maintenance facilities for the common variety of printing equipment and machinery needs to be built up by developing electronic, mechanical and electrical personnel, preferably on self-employed basis.
15. Though traditional in nature, to meet modern and increasing needs of the user-industry, entrepreneurial development for machine design and manufacture, training of electronic engineers in printing machinery design both in Indian Institutes and abroad are suggested.
16. Recognising that marketing is a specialised function in a growing industry, it is proposed that for development of marketing teams and agency systems attractive sales commission and after-sales service provision with 5% as

against 2-1/2% value of inventory of spare parts particularly to develop export market is desirable. Indian missions abroad could also take active part in the promotion of Indian products and services besides setting up of trade centres abroad with separate desk for printing machinery.

17. To facilitate export, encouragement to indigenous manufacturers to participate in foreign printing machinery fairs, advertise in foreign trade journals, subsidising the cost at initial stages and educative tours including for R&D personnel are proposed.
18. Promotion of export-oriented and import substitution units may be given support, since export potential for quality printing machinery is considerable particularly on soft credit terms to neighbouring countries.
19. There is need for taking up local manufacture of items for which gap in technology exists with promotional support, which will result in technological self-sufficiency.
20. To develop Indian printing machinery manufacturing industry on sound lines, coordination between different Governmental agencies and manufacturers is needed.