

I. INTRODUCTION

1.1 Historical Background

In 1983 Sri Lanka participated in the 1983 World Programme of Industrial Statistics by carrying out a Census of Industry, on a nation-wide scale. The earliest attempt made at seeking information from the industrial sector was in the "Census of Agriculture and Industries", that was taken in conjunction with the Population Census in 1946. With the steady increase in industrial activities in Sri Lanka and the growing recognition of the importance of industrial statistics for purposes of planning, a systematic attempt was made to collect data on industrial production through the Census of Industry 1952. This covered Mining and Quarrying, Manufacturing, Electricity and Gas and also Construction. The census of 1952 was confined only to the factory type of establishments i.e. industrial establishments which had not less than 5 paid employees, employed a capital of not less than Rs. 3,000 and used mechanical power in any of its production processes. Among the major agro-based export industries, coconut and oil milling were covered in the 1952 census, while tea factories and rubber mills were excluded, and brought instead within the scope of the Census of Agriculture.

The next Census of Industry was conducted in 1964, the scope and coverage of which was similar to that of the 1952 census. The frame for this census was based on list of buildings prepared for the Census of Population 1963. However there was considerable difficulty in identifying the buildings in which industrial activities were carried out. As a result the list of industrial establishments compiled on this basis did not provide a satisfactory frame to determine the overall magnitude of "factory establishments" in the industrial sector. The results as analysed from the limited number of census returns received, could thus not yield a sufficiently realistic picture of the level and structure of industrial activity in the country.

1.2 The Objectives and Scope of the Census

Industrial censuses are infrequent inquiries conducted in many countries once every five or ten years and are usually aimed at a full coverage of industrial establishments within the territorial boundaries of the country. The broad objectives of the 1983 Census of Industry were

- (a) to provide measures of the principal indicators of economic activity for the census reference year 1982,
- (b) to provide measures that would serve as a "benchmark" (defined as a complete count or record of objects of statistical interest, at a specific date), for other surveys and for the construction of indices of production, etc.
- (c) to develop a comprehensive register of industrial establishments which would serve as an efficient frame for annual, quarterly and monthly inquiries into the structure of activities in the industrial sector.
- (d) to ensure that the concepts and standards of industrial statistics compilation in Sri Lanka fall in line with international recommendations.

The census covered the industrial sector of Sri Lanka, comprising establishments engaged primarily in the activities of Mining and Quarrying, Manufacturing, and of the production and distribution of Electricity, Gas and Water. These activities correspond to the

three major divisions 2, 3 and 4 respectively of the U.N. Standard Classification of All Economic Activities (I.S.I.C), and represented the "industrial sector" specified for census coverage by the U.N. in its recommendations for the 1983 World Programme of Industrial Statistics. A complete coverage of all identifiable industrial establishments in the country was not considered feasible due to financial and operational constraints. Hence the enumeration plan called for coverage of all establishments above a designated employment cut-off point and a sample of smaller establishments. It was decided to enumerate all establishments engaging 5 or more persons, as well as a sample of establishments with less than 5 persons engaged, to enable estimates to be prepared that would be as close to the universe as was possible.

2. CENSUS METHODOLOGY

2.1 Census Organization

The Census of Industry was taken under the Census Ordinance (Cap. 143), as amended by Census (Amendment) Act. No. 16 of 1981. Thus the holding of the Census of Industry in the year 1983, was duly notified by His Excellency the President by order made under section 2 of this ordinance. The Director of Census and Statistics functioned as Superintendent of Census and was responsible for conducting the Census of Industry. Government Agents, Mayors of Municipal Councils and Chairmen of Urban Councils officiated as Commissioners of census and were responsible for the conduct of census operations within their respective areas of authority. They were assisted in their tasks by Assistant Commissioners who were generally A.G.A.'s of the divisions in the rural areas, and Secretaries of the local bodies in urban areas.

The Deputy Directors of Census functioned as Deputy Superintendents of Census, while the Assistant Directors of Census, Statisticians (who performed duties as Coordinators in selected districts), and district Statistical Officers functioned as Assistant Commissioners of Census. These officers provided the necessary technical and supervisory guidance in all census field operations. In the pre-listing of industrial establishments which was the first stage of the taking of the census (conducted on an all-island basis from April to June 1983), the Grama Sevaka Niladharies functioned as the enumerators in the rural areas, while in the case of urban areas, the local bodies appointed their own field officers as the enumerators. In the final census enumeration, Statistical Investigators of this Department as well as Development Officers of the Ministry of Plan Implementation, functioned as the enumerators.

2.2 Planning and Procedures

Preparatory work connected with the planning of the Census of Industry 1983, commenced early, with the publication of a bulletin entitled "An outline of the Scope and Contents of the Census of Industry 1983". This was circulated among prospective data users, for their comments. The suggestions and observations received were considered by a Census Consultative Committee and duly taken into account in reviewing the draft census questionnaire and instructions to enumerators. A pilot census was undertaken in July - August 1983.

There were two main stages in the conduct of the 1983 census.

- (i) the pre-listing of industrial establishments in the country for compiling the all-island frame needed for selection of the units to be covered.
- (ii) the census enumeration proper, to canvass the items of data specified in the Census questionnaire, at establishment level.

Prelisting of industrial establishments included the following activities.

- (a) the compilation of a preliminary composite register of industrial establishments in the country. This commenced in early 1982, with the extraction of basic identification information on manufacturing and business units as recorded in the pre-listing form F 1 (List of Buildings) used for the Census of Population 1981, supplemented with list of industrial units furnished by district statistical Offices, as well as those obtained from the records of organisations such as the I.D.B. (Industrial Development Board), the G.C.E.C. (Greater Colombo Economic Commission) and relevant government agencies (Ministries, Departments etc.).
- (b) An island-wide field listing of industrial establishments on a pre-listing form (Form C. i-1) specially designed to, (i) verify and update the identification information contained in the composite register and, (ii) obtain basic particulars on the nature of industrial activity and the number of persons engaged in each establishment.

The directory of industrial establishments that was built up on the information compiled from the nation-wide field listing operation indicated that there was a total of approximately 110,840 industrial establishments in the country, of which 19,342 (or 17.5%) were the relatively medium and large scale units (i.e. engaging 5 and more persons). The balance 91,499 were the small scale units (i.e. those engaging less than 5 persons). For the final Census of Industry, it was decided to carry out a complete enumeration of the establishments in the "5 and over persons" category, and a sample enumeration 20,000 establishments of the "under 5 persons" category, which was approximately 22% of the total listed in this latter group.

2.3 Questionnaires

After careful field study of the manner in which some large and small-scale industrial undertakings maintained their business records, it was decided to use the following two types of census questionnaires for the canvassing of data at the final enumeration. (See the Appendices II, III).

- (a) Questionnaire CI/2L - The long form for enumeration of medium and large-scale establishments, where detailed information was sought on the full range of items recommended by the U.N. for the 1983 World Programme of Industrial Censuses and
- (b) Questionnaire CI/2S - The short form for enumeration of the selected sample small-scale establishments, where less detailed information was canvassed on the basic range of items specified for the 1983 World Programme.

2.4 Sample Design for Small-Scale Establishments

The sample was nationally representative probability sample drawn from the directory of industrial establishments. It was decided to select a total sample of 25,000 establishments. The census estimates of all the variables were required at district level by ISIC, three digit categories. Each district is subdivided into A.G.A. Division, Municipal Council areas and Urban Council areas. Within each such area, establishments were classified according to ISIC three digit categories which constitutes the basic stratum.

The sample was allocated sequentially to districts, A.G.A., M.C. or U.C. and ISIC three digit categories proportionally to the number of establishments. The sample was selected systematically.

2.5 Field Operations

The prelisting operation was carried out during the period April to May 1983 in the specified enumeration areas of the rural sector, mainly by Grama Sevaka Niladhari and in the urban sector by enumerators appointed by the relevant Municipal Councils and Urban Councils.

The final census was a direct enumeration of establishments which took place in two phases, viz. during November and December 1983 for 17 districts (excluding those in the northern and eastern provinces) and during February and March 1984 for the balance 7 districts.

Approximately 650 trained enumerators were used comprising the regular Statistical Investigators of the Department and Development Officers of the Regional Development Division of the Ministry of Plan Implementation.

Ten senior Statisticians and one Assistant Director of the Department were appointed as census co-ordinators, and one or more districts were allocated to each of them. In addition a team of 3 Statisticians and 16 Statistical Officers from Head Office, were specifically detailed to assist in the programme of census operations in the different districts. Training classes were organized at the Head Office and at district level, for the intensive training of all categories of census staff in the different stages of census taking.

2.6 Response Rates

The Table 1 gives a summary of the number of industrial establishments canvassed, reporting and reckoned for tabulation at the all-island level.

TABLE 1 - RESPONSE RATES BY SIZE CLASS OF ESTABLISHMENT

Item (i)	Under five persons category (ii)	Five & over persons category (iii)	Total (ii) + (iii) = (iv)
(1) Number of units on Prelisting frame	91,499	19,342	110,841
(2) Number selected for canvass at final census	20,000	19,342	39,342
(3) Number reported at final census	19,595	16,773	36,368
(4) Number of schedules (units) reckoned for tabulation of final results	18,677	16,077	34,754
(5) Response rates $\frac{(4)}{(2)} \times 100$	93.4	83.1	88.3

A total of 37,754 establishments furnished satisfactory returns (i.e. returns reckoned for tabulation of preliminary results) and this yields an overall all-island response rate of 88.3% with the corresponding rates for "5 and over persons engaged" category and for the "under 5 persons" category being 83.1% and 93.4% respectively.

3. CONCEPTS AND DEFINITIONS

The definitions and concepts used in the 1983 Census of Industry, were broadly in accordance with the United Nations recommendations for the 1983 World Programme of Industrial Statistics⁽¹⁾ and also its revised International recommendations for Industrial Statistics.⁽²⁾ These recommendations were duly modified in certain respects to suit local conditions. As will be noted later, the following were two of the important definitional changes introduced at the 1983 census.

- (a) the collection and measurement of data on output, on a "shipped" basis, rather than on the "produced" basis, which had been used earlier in current industrial inquiries, and
- (b) the gathering of data on receipts from "industrial services" as well as from "commodity production" proper, from the reporting industrial establishments.

These changes, together with the much wider census coverage obtained of industrial establishments were aimed at securing a fuller and more realistic measurement of gross output and of related indicators in the industrial sector of the country.

3.1 Statistical Unit

The statistical unit is the entity for which the required items of data are gathered and compiled. The recommended statistical unit used in the 1983 Census, was the establishment. The establishment has been defined as the unit directed by a single owning or controlling entity that is engaged in the production of the most homogeneous group of goods and services, usually at one location but sometimes over a wider area, for which separate records are available (e.g. plant, factory, mill, mine, workshop etc.).

In cases where industrial enterprises were engaged in the production of more than one homogeneous group of goods and services or in the production of one homogeneous group of goods and services in different locations, separate returns were generally obtained for each such product group and location. In cases where establishments operated by a single owner or enterprise was located within the area of one G.S. Division or Ward, these several units could furnish a single return and this would be reckoned as one establishment.

Ancillary units, including warehouses, garages, repair shops, electric plants which primarily served the needs of a single establishment, if they were in the same site within the same G.S. Division or Ward, were treated as part of the main establishment. Otherwise, these were treated as separate establishments but classified to the same industry as the parent establishment.

(1) Statistical Paper Series M. No. 71 (Parts I & II) - 1981.

(2) Statistical Paper Series M. No. 48 (Rev. 1) - 1983.

3.2 Shipments and Other Receipts

Information on output and other receipts was gathered on a "shipment" basis as recommended by the U.N., rather than on the usual "production" basis. Thus each establishment was requested to report on.

- (i) the quantity and value of shipments of products made, and
- (ii) receipts on specified categories of industrial services and on other miscellaneous receipts.

In the case of products made (category (i) above), shipments covered the moving out or release from the establishment (i.e. from factory, plant, mine etc.) of goods produced, to the following broad categories of customer.

- (a) transfer to other establishments of the same enterprise, including transfer to wholesale and retail organisations under the same ownership,
- (b) deliveries to other enterprises,
- (c) delivery of all goods sent abroad for sale.

The valuation of goods shipped was to be reported at producers' prices. i.e. the establishment price charged to the customer, whether ex-factory or delivered. The valuation should include all duties and taxes which fall on products when they leave the establishment. Any subsidies received by the establishment were to be excluded, and price rebates, and discounts and allowances on returned goods given to the customer, were also to be deducted. Shipments to other establishments within the same enterprise were to be valued as though sold, or else at book value. Where the shipment of the product takes place ex-factory, the establishment price invoiced to the customer would exclude transportation costs. Where the terms of the shipping transaction involved delivery to the customer however, the charges invoiced to clients were to be reported to include transportation costs as well, and in such instances, the valuation of the shipment would be at a somewhat higher price than the standard producers' price, as recommended for compiling national accounts statistics.

Under receipts on industrial services and other miscellaneous receipts (category (ii) above), the principal items were.

- (a) contract and commission work done for others on their materials,
- (b) Repair and installation work done for others,
- (c) Value of own-account construction work, and
- (d) Sale of goods bought and sold in the same condition.

The valuation of the above items were to be done at actual invoice price, including taxes charged to the customer. In the case of the specified items of industrial services done for others, as well for own-account investment work, the valuation would include the cost of labour and the overheads apportionable to the work.

3.3 Gross Output at Producers' Prices

Since the shipment concept, as recommended by the U.N. was adopted at the 1983 industry census, the total value of shipments of products made and of other receipts, as reported by establishments, required an adjustment for changes in the value of their stock of finished goods, goods for resale, and work in progress, to obtain the usual measure of gross output in producers' prices. The derived values of gross output for 1982 have thus been obtained for each establishment as follows:

- (a) Establishment with 5 and over persons.
Gross Output = Total Value of shipments of products and other receipts + Net change in the value of the stocks of finished goods, goods for resale and work in progress and
- (b) Establishments with under 5 persons.
For this category of establishments, the value of shipments and other receipts was reckoned as approximating their gross output value.

3.4 Estimates of Value Added

As the term implies, value added is the increment to the value of commodities and services that is contributed by the producing establishment i.e. the value created by the establishment. It is computed as follows. Value added = Gross Output - Cost of raw materials, power and industrial services used. When summed up for all establishments in a given industry, value added is the incremental value of goods and services attributable to that industry.

3.5 Employment

The detailed data obtained on employment related to the number of persons engaged in the establishment. The number of persons engaged was defined as the total number of persons, who work in or for the establishment, including working proprietors and active partners, unpaid family workers, operatives and all other employees.

- (a) Working proprietors and active business partners - This category comprised all individual proprietors and partners who were actively engaged in the work of the establishment. Managers and directors, working for pay were to be reported as "other employees".
- (b) Unpaid family workers - This category included all persons living in the household of the owners and working in the establishment, without regular pay, for at least one third of the normal working time of the establishment.
- (c) Operatives - This category was defined as all paid employees who were directly engaged in the production or related activities of the establishment, including any clerical or working supervisory personnel whose function was to record or expedite any step in the production process.

- (d) Other Employees - This category comprises all paid employees except those already reported as operatives e.g. administrative, technical and clerical personnel such as salaried managers, and directors, laboratory and research workers, clerks, typists, watchman, book-keepers, salesmen and the like.

The number of persons engaged to be reported, was the average number of employees viz. categories (c) and (d) above, (the arithmetic average of the number of employees in four specified pay periods of the reference year), plus the number of working proprietors and active partners and of unpaid family workers, during the reference year.

The figures shown on employment in the tables of this report refer to the total number of persons engaged, (i.e. the aggregate of the four categories mentioned above).

The figures shown on employment in the Tables of this Report, refer either to

- (a) the total number of "persons engaged" (i.e. the aggregate of the four categories mentioned above) or
- (b) the number of "employees" (i.e. the sum of the two categories "operatives" and "other employees" mentioned above).

3.6 Wages and Salaries

This category covers all payments whether in cash or kind, made by the employees during the reference year in connection with work done, to all persons included in the count of "employees".

The payments include

- (a) all regular and overtime cash payments, bonuses and cost of living allowances,
- (b) wages and salaries paid during vacation and sick leave.
- (c) taxes and social insurance contributions and the like payable by employees but deducted by the employer, and
- (d) payments in kind.

Social insurance contribution and contributions to pension and welfare funds payable by the employer are excluded from this category.

3.7 Supplements to Wages and Salaries

This covered payments made by employers on behalf of this employees with respect to.

- (a) Statutory social security contribution (e.g. E.P.F., W. & O.P.) and, (b) other programmes such as collectively agreed contractual contributions to private pension and insurance schemes and to the cost of medical and health-care services provided by outside organization etc.,

The sum of this item and of "wages and salaries", for all establishments, equals total compensation of employees in each industry. It is the value of this aggregate, which is given under the "wages and salaries" column of the tables of this Report.

3.8 Input Costs

Data on inputs requested, covered the costs of

- (a) Materials, parts, components, containers and supplies (for factory and office)
- (b) Purchased fuels and electricity,
- (c) Cost of contract and commission work and of repair and maintenance work done by others for the establishment (i.e. industrial services rendered by other establishments).
- (d) Cost of goods purchased for resale.

The reporting of inputs was requested on the basis of "purchasers" rather than of "consumption". The valuation of total inputs and its components was requested at current purchasers' price (equivalent to producers' prices plus the trade and transport charges incurred in devlivering the commodities from the producer to the purchaser).

The estimates of the total cost of materials and industrial services actually used or consumed by the establishment during 1982, was obtained by adjusting the figures of cost of material and fuels etc. purchased, for changes in its value of stocks of materials, fuels and supplies. (in practise this adjustments involves the adding of the beginning of year value of material stocks to the total purchase value of raw-materials etc. during the reference year, and subtracting the value of raw-material stocks as at end of the same year).

3.9 Stocks

Value data was requested on the following categories of stocks owned by the establishment at the beginning and the end of the reference year.

- (a) Materials, fuels and supplies,
- (b) Work in progress,
- (c) Finished goods and
- (d) Goods for resale

In general, stocks acquired from others were to be valued at purchasers' price and those produced internally at producers' price.

In the case of the sample of smaller establishments enumerated, where a more limited range of information was canvassed on a short questionnaire, separate data was not sought on stocks as was done in the full enumeration of the medium to larger establishments.

3.10 Gross Fixed Capital Formation (Gross Additions to Fixed Assets in 1982)

Gross fixed capital formation, for which data on gross additions to fixed assets were canvassed, is defined as the outlays of industries on additions to their fixed assets, during the reference year, less the corresponding value of sales of used fixed assets. Data

sought from establishments thus related to expenditure on all fixed assets (i.e. durable goods) acquired by the establishment, and expected to have a productive life of more than one year. The expenditure figures were to be classified under the following broad types of assets: Land, Buildings and other construction, Machinery and Equipment, Transport Equipment.

Expenditures reported were to cover outlays on

- (a) new fixed assets, which were to include all new assets as well as used imported assets that have not previously been used in Sri Lanka.
- (b) second-hand assets (i.e. assets previously used in the country).
- (c) major additions, alterations and improvements to existing assets that extended their normal economic life or raise their productivity,
- (d) fixed assets and improvements thereto, made by its labour for its own use.

Valuation of fixed assets acquired from others was to be at the full cost i.e. the delivered price plus cost of installation and any necessary fees and taxes. Fixed assets produced on own account were also to be valued in the manner as described above. In the case of own-account construction of structures and other works, and of alterations however, the valuation would in practise, often be at explicit cost, including any imputations which may be required in respect of own-labour and material used, and an allocation for over-heads. Sales of used assets were to be at the actual amounts realized.