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REPORT OF THE SEMINAR ON INDUSTRIAL STATISTICS

ADDIS ABABA, Ethiopia
18-28 July, 1962

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REPORT

of

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I. INTRODUCTION.

1. The Seminar on Industrial Statistics, sponsored by the Economic Commission for Africa and the Statistical Office of the United Nations, in co-operation with the Bureau of Technical Assistance Operations, met in Addis Ababa, Ethiopia, from 18 through 27 July 1962. The Seminar was convened on the recommendation of the Second Conference of African Statisticians, held from 26 June through 7 July 1961, as part of a series of regional seminars jointly sponsored by the regional economic commissions and the Statistical Office of the United Nations on the 1963 World Programme of Basic Industrial Statistics and other aspects of the recommendations in the field of industrial statistics made by the Statistical Commission of the United Nations at its eleventh session, in April - May 1960.

2. The Seminar was held to provide an opportunity for an exchange of experience and views among African Statisticians on the objectives, content and methodology of infrequent and comprehensive, annual, and monthly or quarterly inquiries into the industrial sector of the economy. This involved discussion, inter alia, of the work that had been carried out or attempted by countries of Africa in the field of industrial statistics; the problems that had been encountered in this work and the techniques that had been, or might be, devised to resolve these difficulties; and the plans and programmes of the countries for future work. Particular attention was paid to the comprehensive enquiries that would be conducted in countries of the region as part of the 1963 World Programme of Basic Industrial Statistics and the adaptation of the recommendations of the Statistical Commission for use in these enquiries. The discussions of the Seminar also dealt with the content and methodology of annual and more frequent industrial inquiries the light of the statistical requirements and circumstances of the countries of Africa and the recommendations of the Statistical Commission. The agenda adopted by the Seminar for its discussions is set out in Annex I of this report. The papers and documents considered by the Seminar are listed in Annex II.

3. The Seminar was attended by 18 participants from 14 countries. Annex III

of this report gives the list of participants. Mr. El Sayed Mahmoud of the United Arab Republic was elected Chairman of the Seminar and Mr. Antoine Essome of Cameroun was elected Vice-Chairman.

II. THE OBJECTIVES, COVERAGE AND CONTENT OF THE VARIOUS ENQUIRIES OF A SYSTEM OF INDUSTRIAL STATISTICS

A. INTRODUCTION.

The Papers Considered.

4. In dealing with the purposes, field of coverage, frequency and content of various types of industrial enquiries, including those which would come under the 1963 World Programme of Basic Industrial Statistics, the Seminar considered the following documents: The Objectives and Content of a System of Industrial Statistics, E/CN.14/CAS.2-ENQ/12, ST/STAT/CONF.12/L.2, International Recommendations in the 1963 World Programme of Basic Industrial Statistics, Statistical Papers Series M. No. 17, Rev. 1. The paper, E/CN.14/CAS.2-ENQ/12, ST/STAT/CONF.12/L.2, dealt with the contents of fully developed infrequent and comprehensive, annual, and monthly or quarterly enquiries in the light of the requirements of African countries for statistics on the industrial sector and the feasibilities and costs of gathering these data. The paper also covered the ways in which African countries might evolve a fully developed system of industrial statistics. Discussed in particular was the role in this process and the content of enquiries which might be taken by countries of the region as part of the 1963 World Programme. The recommendations of the Statistical Commission concerning the 1963 World Programme, set out in the document, Series M. No. 17, Rev.1, and the character and content of fully developed comprehensive, infrequent and annual enquiries, shown in the document Series M. No. 17, Rev.1, provided the framework for the materials set out in the paper, E/CN.14/CAS.2-ENQ/12, ST/STAT/CONF.12/L.2.

b. Country Requirements and Programmes.

5. To facilitate detailed discussion of the various elements of industrial enquiries, including those that will be undertaken as part of the 1963 World

Programme, the Seminar briefly reviewed the requirements for and the present position of industrial statistics in countries of the region.

6. The Seminar noted that all of the countries represented at its sessions were engaged in work in the field of industrial statistics in view of the urgent requirements for data on the industrial sector for purposes of estimating national accounts, planning, evaluating, and furthering economic development and related uses. Economic development programmes generally included efforts to increase industrial output and enhance the role in the economy of the industrial sector. This was an important means of employing the labour resources of a country more fully and more productively. Furthermore, substituting home-produced industrial goods for imports and increasing exports of industrial products had a beneficial effect on the foreign exchange position of a country and, thereby, on the ability to procure the capital required for increasing the level and productivity of industrial and other activities. Industrial expansion plans had to take account not only of the inpact on the balance of payments, but also of the effects on the level of domestic output, demand and prices.

7. Comprehensive statistics on the structure and activities of the industrial sector would help ascertain the kinds of industrial units on which development efforts should be concentrated and some of the measures needed to promote industrial growth. The distribution of the number of engaged or of value added by size of establishment and kind of industrial activity could be used to determine the kinds of industrial activity prevelant in the economy and the character of the institutional arrangements for industrial development. In conjunction with data on the structure of industrial activities, statistics on home-produced industrial goods and imports and domestic consumption of these goods, on the one hand, and exports and home consumption, on the other, would suggest the industrial activities which might usefully be expanded. For this purpose, measures were needed of the output, in total and according to the individual commodities, costs and efficiency of the different kinds and sizes of industrial units. Data on the commodities consumed and produced in domestic industrial activities would also be of assistence in formulating programmes for the balanced expansion of these activities.

8. Industrial statistics were also required to follow and measure developments in the industrial sector and to detect and resolve problems of growth. For instance, comparisons could be made between changes in domestic industrial production and import-export patterns. Annual and more frequent employment and production data would help identify industries which were developing rapidly or lagging behind. The contribution of industrial units to gross national product could be determined from figures of value added; and output data, in conjunction with labour and cost data, could be used to assess changes in the productivity and profitableness of units. Annual capital formation data were indicative of the changes in the capital stock of industrial units, which among other uses, would assist in setting realistic targets for capital investment.

9. The Seminar noted that the degree to which industrial statistics had been developed, and the resources available for this work, differed among the countries of the region. A few countries had regularly gathered and compiled data, annually or less frequently, on all kinds of industrial units. Where, in these countries, comprehensive data were gathered infrequently, annual enquiries were taken which were restricted to the larger establishments. In these countries a limited number of key items of data were sought for the smaller industrial units, sometimes on a sample basis and through personal visits, but the full range of the required statistics were gathered for other establishments. Most of these countries also had monthly or quarterly surveys, limited in coverage to the larger industrial units and in scope to data on labour and outputs. A number of other countries took annual or less frequent enquiries into the larger industrial establishments, often excluding construction units, in which items of data were gathered on labour, raw materials and related costs, outputs, inventories and capital formation. In most of these countries the enquiries had been designed primarily to yield the data needed for estimating the contribution of the industrial sector to the domestic product, national income and related aggregates. Some of these countries also carried out monthly or quarterly enquiries into the employment and/or outputs of the larger industrial units. A third group of countries had recently attempted

rudimentary industrial enquiries restricted in coverage to urban areas or to the larger industrial establishments for which lists were available. Marked difficulties in obtaining the co-operation of respondents had been encountered in these first enquiries.

B. THE SCOPE, FREQUENCY AND REFERENCE PERIOD OF VARIOUS KINDS OF ENQUIRIES.

a. The Purpose, Field of Coverage and Frequency of Comprehensive Enquiries with Particular Reference to the 1963 World Programme.

10. Since a comprehensive industrial inquiry should furnish a description of the industrial sector of the economy, an inventory of the resources and activities of this sector, and a framework for designing and carrying out less extensive but more frequent industrial surveys, the Seminar agreed that, in principle, this basic enquiry should relate to all mining, manufacturing, construction and electricity and gas units. These units should be included whether large or small or whether located in rural or urban areas, in factories or other recognizable industrial premises or in households. In the countries of the region, small units played an important role in the industrial sector of the economy and information was required on their prevalance, characteristics and key activities, at least at infrequent intervals of time. Indeed, in some African countries the industrial sector consisted almost entirely of small industrial establishments. The industrial activities of government agencies, whether incorporated enterprises or government departments, and of private individuals or businesses, whether wholly or partly for the market, were to be included in the field of coverage of the comprehensive enquiry.

11. The Seminar considered, in some detail, problems of including the smaller industrial units in the field of coverage of the comprehensive enquiry. In a number of countries locating and identifying these industrial establishments required intensive field work and enumerating them required personal visits. Even under these circumstances, only a limited number of items of data could be gathered from the smaller industrial units because of the level of literacy of the owners, the lack of records, and the haphazard way in which these businesses were sometimes conducted. In view of these difficulties, countries

which had successfully gathered or planned to gather even limited data on the activities of the smaller industrial units, had often utilized sampling for this purpose. These countries generally compiled a frame for purposes of selecting the samples, consisting of basic identifying and structural information on the small units, either through complete field canvassing or from lists that were a by-product of governmental administrative activities. In the course of the discussion, some questions were raised concerning the degree of reliance that might be placed on such lists in the case of the small units, and it was suggested that the costs of the field convassing could be materially reduced by the use of area sampling. It was indicated however that if area samples were utilized to gather identifying and structural information on small establishments, it might not be possible to compile the data on these units classified according to the geographic sub-divisions of the country that were required by some Governments.

12. The Seminar noted that in the case of some of the countries represented at its sessions, the statistical resources or experience required to include all industrial units in the enquires which will be part of 1963 World Programme might not yet be available when they take these enquiries. In addition to the very small manufacturing units, it might not be feasible for the countries to cover all the construction units, which also present special problems. In one country, for example, though all small mining and manufacturing establishments would be covered, in the case of construction, sub-contractors would be omitted. In this connexion, the Seminar noted that the recommendations of the Statistical Commission of the United Nations on the 1963 World Programme provided for the optional inclusion of construction units. Nevertheless efforts would be made in each of the African countries participating in the 1963 World Programme which have not yet carried out comprehensive industrial enquiries to gather at least some data on as much of the industrial sector as was possible.

13. The countries represented at the Seminar all proposed to participate in the 1963 World Programme. In the case of some countries the enquiries that would be taken as part of this programme would be the beginning of

a sound system of industrial statistics. In the case of other countries, these enquiries would provide the basis for extending or improving annual and for more frequent industrial statistics.

b. The Purpose, Field of Coverage and Frequency of Annual or Like Enquiries.

14. The Seminar felt that it was less urgent and more difficult to cover all industrial units in the case of annual or similar surveys than in the case of infrequent enquiries. The focus of attention in an annual enquiry were data on employment and wages and salaries paid, expenditures on fixed assets and inputs and outputs of industrial units; and a number of these items of data were particularly difficult to gather for small industrial units. Furthermore, annual industrial enquiries had to be carried out much more economically and quickly than infrequent, comprehensive enquiries. A number of the participants in the Seminar emphasized that in order to accomplish this, an industrial directory (card index) was required for the units to be covered in the annual survey, that could be maintained from governmental administrative records or similar sources; and reliance had to be placed on the use of mail enquiries at least for a significant portion of the industrial units covered. In the case of many of the countries represented at the Seminar, the use of an industrial directory and a mail enquiry was practicable in the case of the larger industrial units only.

15. Because of the considerations mentioned above, many of the African countries which had taken annual or somewhat less frequent enquiries restricted the field of coverage of these surveys to the larger industrial units. The lower limits to the size of the establishments covered in these instances varied from 5 or more persons engaged to more than 10 persons engaged or was set at 5 horsepower of installed power equipment or twenty thousand US dollars of gross output. In the case of one country, establishments were included in the annual survey irrespective of size, but useful returns were obtained from those engaging 5 or more persons only. In the case of

another country, all establishments had been successfully covered in the annual surveys. These enquiries were based on lists available from the taxation authorities and involved the use of a simplified questionnaire and personal visits, as well as sampling in some instances, in the case of the smaller establishments.

16. The Seminar noted that the collection of annual or more frequent statistics on the construction industry also raised special problems. In a number of countries the construction activities to be covered were identified through permits issued for building but authorization was usually required for construction in urban areas only. Further, there was considerable sub-contracting of construction and much turnover in business principally engaged in construction for others.

c. The Reference Period for Annual and Infrequent Comprehensive Enquiries.

17. In the case of a number of the countries which had taken annual or less frequent industrial enquiries, the calender year was utilized as the reference period, and difficulties were not encountered in following this practice. Some countries, however, accepted returns referring to the establishment's financial year where the accounting period in use differed from the calendar year. The Seminar noted that though the calender year was the prefered reference period in the recommendations of the Statistical Commission, allowance was made for use of the financial year where this was the accounting period in use. It was suggested that where the financial year was used as accepted, the data might be considered to refer to the calendar year in which the greater part of the financial year fell.

d. The Purpose, Field of Coverage and Evolution of Monthly or Quarterly Enquiries.

18. The Seminar noted that relatively few countries of the region now took monthly or quarterly enquiries into outputs and/or employment. These inquiries were necessarily restricted in coverage to larger mining, manufacturing and/or construction units, and in scope to a few items of data. An important use made of the results of these enquiries in some of these countries was the compilation of index numbers of industrial production. Additional countries hoped to start monthly or quarterly enquiries in the future.

C. STATISTICAL AND TABULATING UNITS IN INDUSTRIAL INQUIRIES.

19. In the case of all countries represented at the Seminar, the establishment has been found to be the most useful and practicable statistical and tabulating unit; and the establishment would be utilized in the enquiries that are taken as part of the 1963 World Programme. In some countries the enterprise is employed as a supplementary statistical unit in order to gather financial data and, in one instance, to gather data on the ancillary electric power stations of the enterprise, which provide electricity to its various mining and manufacturing establishments only. In the case of another country, the enterprise is utilized as the basic statistical units in quarterly enquiries in order to facilitate the rapid gathering of data on the output of various industrial commodities.

20. In the case of the constructing industry, some countries utilized each of the individual offices of the enterprise or the major geographic sub-divisions in which the enterprise operated as the statistical unit. Some other countries employed the construction enterprise as a whole as the statistical unit. It was noted that the preciseness with which establishments could be delineated in the case of construction, as well as other industrial activities, depended on the way in which the activities of multi-units enterprises were arranged and their records were kept.

21. A few members of the Seminar indicated that they had encountered some difficulties in dealing with establishments which were part of multi-unit enterprises. Though the head offices of multi-unit enterprises were asked to check and suppliment lists of their constituent establishments, the returned lists were not infrequently incomplete. Difficulties had been encountered in another country in gathering reliable data on the costs of raw materials, fuels and electric energy utilized and complete data on expenditures on fixed assets from the establishments which were part of multi-unit enterprises.

22. The Seminar discussed devices and techniques for overcoming these difficulties. The practice in one country was to focus the responsibility of providing completed questionnaires for its various constituent establishments on the head office of the enterprise and to direct a questionnaire to the enterprise concerning any central ancillary electric power stations or similar units. When separate data were gathered on such central ancillary units, the values reported for the output of these units could be checked against that reported for the marketed output of other similar establishments and complete and reliable data could be more easily gathered. It was suggested that in the case of establishments that were part of multi-unit enterprises, the collection of reliable data on outputs and inputs of the individual establishments would be facilitated if these items were sub-divided into transactions with other establishments of the same enterprise and transactions with other enterprises. The Seminar noted that the recommendations of the Statistical Commission provided for the use of special separate reports for central ancillary units in order to assist the collection of complete and reliable data. The data gathered in these reports could be classified according to the main industrial activity of the parent enterprise or allocated among the constituent establishments.

D. STATISTICS TO BE COMPILED AND ITEMS OF DATA TO BE GATHERED IN THE VARIOUS TYPES OF INQUIRIES

23. The Seminar next considered the specific items of data to be sought in comprehensive, annual and quarterly enquiries. In this discussion emphasis was placed on consideration of the programme and order to priorities recommended by the Statistical Commission for enquiries that would be taken as part of the 1963 World Programme. The Seminar agreed that these recommendation which are set out in Annex IV, furnished a valuable and realistic set of objective toward which the countries of the region could work. As far as possible these recommendations would be followed in the enquiries planned for the 1963 Programme. Some participants indicated, however, that the statistical resources and experience required to carry out these recommendations might not yet be available in their countries when these enquiries would be taken.

24. The Seminar noted that the recommendations of the Statistical Commission provided for the collection and compilation of much fewer items of data for small establishments than for large establishments, and agreed that it was essential to follow this practice if the small establishments were to be covered in comprehensive enquiries. The Seminar also noted with approval that the recommendation of the Statistical Commission on annual enquiries stressed the gathering of data on the activities rather than the structure of the industrial sector.

a. Characteristics of the Statistical and Tabulating Unit.

25. The dominant characteristics of the establishment for which most African countries have sought information were firstly kind of activity and secondly size. The Seminar agreed that kind of activity data was basic to achieving any meaningful results from an industrial survey. It was further considered that size, using the criteria of number engaged as the most easily handled and collected item, was also valuable and widely utilized in classifying industrial units.

26. It was also pointed out that area statistics were of importance in a continent such as Africa, containing many countries large in area and federal in governmental structure. A number of participants felt that further analysis of the characteristics of the industrial unit was unnecessary at present. A few countries, however, were attempting to delineate the structural aspects of their industrial sector by collecting data on type of operation and type of legal organization as well.

b. Employment and Wages and Salaries Paid.

27. Most countries planning to take part in the 1963 World Programme felt it desirable to collect figures of number engaged by status. Some went further and hoped to distinguish the engaged according to function. In one country it was considered necessary to distinguish, in addition, apprentices and learners. In small establishments these types of worker proved to be of considerable importance.

28. Concern was expressed at the danger, if too many details were requested, of overloading a particular statistical inquiry. This arose in connection with information as to sex and age of the number engaged although, in fact, the latter item was not recommended for collection by the Statistical Commission. This was of course a factor to be considered and perhaps such details were best gathered as part of a separate special inquiry.

29. The treatment of homeworkers differed among African countries. At least two countries included them in the number of engaged of the establishments for which they worked, but a number of objections were raised to this practice by other participants. The objections arose from the possibility that the homeworkers might work for more than one employer and that though the establishment recorded one homeworker, there might in fact be several members of the family unit engaged in the work. Further, the relationship of the employer with the homeworker differed from that with other employees. However, certain participants felt that in their own country, homeworkers were so few in number that the problem was insignificant.

30. As to the feasibility of collecting wages and salary figures with a distinction between payments in cash and payments in kind, there were some differences in approach. Whilst all participants agreed on the importance of doing this in African conditions, they felt problems of valuing wages in kind were a considerable stumbling block. While some participants felt market valuation was most appropriate, others felt that cost to the establishment was more relevant. One participant felt that both approaches were unsatisfactory and that the estimates which would result would be unrealistic. However all participants agreed that the valuation depended on what information one was attempting to extract from the survey. If the costs of labour to the establishment were the focus of attention, then payments in kind should be valued at cost to the establishment. If a measure of the welfare of the workers was being attempted, then market price valuation of the payments in kind might be made. As to which valuation was easiest to obtain from the establishments, it was thought that perhaps the larger units could supply the data more readily at cost to the establishment, whilst the payment in kind by small and perhaps medium-sized units could most easily be valued at market price.

c. The Capacity of Installed Power Equipment.

31. Some participants stated that their first attempts at the inclusion of data on this item had ended in failure, or at best in unsatisfactory figures. This they attributed to a number of factors; either the respondents failed entirely to understand the question or as the questionnaire was usually completed by an accountant or secretary of the industrial unit and not by an engineer, they chose to ignore the question. It was also suggested that prime-movers was a word and concept unfamiliar to most of the respondents completing the questionnaire. However, one way around this problem was thought to be that of listing the different types of power equipment which were considered prime-movers.

32. At least one country had been successful in gathering these items of data and the participant from the country mentioned a number of techniques used to overcome certain problems. Rated capacity, and not effective capacity, was the figure requested, in terms of either HP. or KW. In addition, when dealing with steam boilers, cubic capacity was the figure requested and the statistical authorities made their own conversion into HP.

33. It was also noted that the items of data included under this topic did not cover power equipment used to drive vehicles.

d. Fixed Assets.

34. The Seminar first considered the items of data on expenditures and sales of fixed assets during the period in question. When attempts were made to collect this information little trouble was encountered as far as large establishments were concerned. Though some participants mentioned the difficulties of collecting this data for small establishments, which lacked organized accounting systems, at least one country planned to attempt this using sampling techniques.

35. Some participants felt that in their country the magnitude of the contribution of small establishments to expenditure on fixed asset was negligible. Others felt that because of the very large number of small establishments in their country, collectively their expenditure could be of considerable relative importance.

36. Various devices were suggested for surmounting the problem of collecting fixed assets data for small establishments. These ranged from attempting collection only for those industry groups where fixed assets were known to play an important role to the use of rental values as preliminary figures on which to base estimates of expenditure on land and buildings.

37. The many problems surrounding any collection of data on depreciation and total stock of fixed assets were touched on by the seminar. In view of the requirements for national accounting purposes, one or two countries had made attempts to collect data on depreciation but none had yet been very successful. The Seminar emphasized the inadvisability of expending valuable resources in this difficult field.

e. Inventories.

38. The importance of data on stocks of raw materials, work in process and finished goods, as the bridges over which raw-material purchases and consumption and finished-goods sales and production were linked was emphasized by the Seminar.

39. One participant felt that it was unlikely that small establishments in Africa held significant amounts of stocks. However, another view expressed was that, in relation to output, the inventories held by small establishments were often relatively greater than those held by large establishments. As a consequence, assuming purchases of raw materials and sales of products were the input and output data collected, it would be important that the value of inventories at the beginning and at the end of the year should be gathered. Otherwise, the input and output data would be misleading.

f. Input and Output of Goods and Services.

40. The Seminar felt that in these items of data lay the very heart of the purpose of industrial surveys. In order that the information collected be utilized for basic and precise economic planning or decision making by government and private individuals, stress was laid on data on the industrial commodities that made up the input and output items.

41. Details given by participants showed that the degree to which countries attempted to gather data on individual commodities differed, and that the methods which they utilized for this purpose also differed. Two approaches emerged.

42. Some countries merely left 3 or 4 blank lines under raw materials used and goods produced and requested the respondents to enter individual quantities and values for important raw materials and products. This apparently had met with limited success. Other statistical offices had pre-listed on the questionnaire forms themselves the main raw materials

and products known to be relevant to each individual industry group. This not only achieved standardization of the data gathered and assured the possibility of aggregating individual items for industry groups, but also considerably aided respondents in completing the form. It was also pointed out that many small establishments found it easier to give data for individual commodities than just for the total value of inputs and outputs. This approach had been utilized by at least two countries of the region, one even finding it possible to use a different questionnaire form for each industrual group. A further point mentioned in this connection was that packaging materials should be listed as a separate and specific item under materials used as, unless that was done, many respondent seemed to feel that packaging materials were not included in materials used.

III. CLASSIFICATION SYSTEMS, TABLES AND METHODS OF COMPILING INDUSTRIAL STATISTICS.

A. INTRODUCTION.

43. The Seminar based its consideration of this item of the agenda on the following documents : Classification Systems, Tables and Methods for Compiling and Publishing Industrial Statistics, E/CN.14/CAS.2-ENQ/13, ST/STAT/CONF.12/L.3, International Recommendations on the 1963 World Programme of Basic Industrial Statistics, Series M, No. 17, Rev.1, Add.1, International Recommendations in Basic Industrial Statistics, Series M, No.17, Rev.1; and International Standard Industrial Classification of all Economic Activities, Series M, No.4, Rev.1. The topics dealt with by the Seminar were the characteristics of the establishments that might be utilized in tabulating industrial statistics and for purposes such as distinguishing small from large establishments, classification schemes for these establishment characteristics, the types of tables in which the results of comprehensive and annual enquiries might be presented, and the purposes and methods of editing and coding questionnaires and compiling the data.

B. ESTABLISHMENTS CHARACTERISTICS AND CLASSIFICATION SCHEMES.

a. Kind of Industrial Activity.

44. The Seminar agreed that all the data gathered in the various industrial enquiries should, to the extent possible, be tabulated according to kind of industrial activity of the establishments covered, and then proceeded to the discussion of industrial classification schemes. A number of members of the Seminar stressed the importance of having a standard industrial classificati n scheme for use by all agencies of a Government, and explained how this had been, or was being, accomplished in their country. Construction of a multi-level, decimal industrial classification

scheme assisted in attaining standardization because of the differences in the detail of industrial classification required and feasible in various circumstances and the industrial classification schemes of countries represented in the Seminar were all of this character.

45. The narrowest categories in the national classification schemes varried from the three to the five-digit level, and use had been made of the International Standard Industrial Classification (ISIC) in devising the national classification schemes. Most of the countries had found it desirable to sub-divide a number of the three-digit groups of ISIC into sub-groups, represented by a fourth or even fifth digit. In some instances, three-digit groups of ISIC had been telescoped into two-digit major groups of the ISIC. The national industrial classifications were all convertable to the ISIC, either at the three or two-digit level.

b. Size and Type of Operation.

46. The Seminar considered that classification of establishments according to size were needed not only to tabulate key items of data in comprehensive or similar enquiries, but also to define the field of coverage of industrial enquiries and to identify the units to which different types of questionnaires were to be sent. A number of countries defined the field of coverage of the various industrial enquiries in terms of size as well as kind of activity of the establishments, and countries often utilized simplified questionnaires for the smaller units among those covered in a particular enquiry.

47. In view of the uses of size of the establishments mentioned above, the Seminar explored the possibilities of suggesting common criteria and limits for distinguishing small from large establishments. The discussion of the question however indicated marked differences, both in practice and in view, as to the appropriate criteria and limits for distinguishing large and small establishments. Though practically all countries utilized the number of engaged as a criterion of size, some countries utilized such additional criteria as whether or not power equipment was installed or the capacity of the installed power equipment; whether or not there were employees; and/or the magnitude of value added or gross output. One view was that the number of engaged provided a sufficient

criterion of size. Another view was that for purposes of adequate distinctions as to size, the additional foremontioned criteria were also required. Furthermore, even where the number of engaged was utilized as the sole criterion of size, the dividing line drawn between large and small establishments differed from one country to another, necessarily reflecting the relative difficulties and costs of gathering data from various sizes of establishments and the resources available to the statistical authorities.

48. It was suggested that though agreement could not be reached on a uniform distinction between small and large establishments, comparisons of the results of the enquiries taken as part of the 1963 Programme could still be made if countries tabulated these data according to uniform classes of size, as measured by number of engaged. It seemed feasible to utilize for this purpose the lower limits for size classes that were recommended by the Statistical Commission - i.e., 5, 10, 20, 100 persons engaged.

49. The Seminar noted that distinctions according to type of operation were designed to separate factory-type from households or handicraft-type units, and that the use of a combination of the number of engaged and whether or not power equipment was installed for making this distinction was suggested by the Statistical Commission. As indicated above, some countries utilized this combination of establishment characteristics in classifying establishments according to size.

c. Geographic sub-divisions.

50. The Seminar felt that in the case of comprehensive enquiries, at least key items of data should be shown for the various geographic sub-divisions of a country. In the case of countries with federal governments it was usually essential to show all of the data gathered according to the administrative regions. Countries had used, or planned to use, administrative sub-divisions for purposes of classification of data according to area. Administrative sub-divisions were not only practical and useful areas for the purpose, but often corresponded to the geographic differences in economic characteristics. It was suggested that in some countries, where this was not the case, supplementary economic sub-divisions of the country would be of value.

d. Other Establishment Characteristics.

51. Use had been made or would be made of the kind of legal organization of establishments as a classifying element for data gathered in industrial enquiries, particularly those which were comprehensive in character. The classification schemes utilized usually distinguished between state-owned and privately owned units and separated the privately owned units into individual proprietorships, partnerships, co-operatives and limited liability companies. In some countries, additional categories were also utilized.

e. Commodity Classification Schemes.

52. The usefulness was stressed of identifying and classifying the individual commodities for which consumption and output data were gathered in industrial enquiries so that these data might be related to one another and to commodity data on imports, exports and domestic consumption. Data for purposes of making these comparisons were among the key results of industrial enquiries. Some members of the Seminar indicated that in their countries the collection in industrial enquiries of data on industrial commodities was organized so that these comparisons could be made. It was felt that the revised SITC data would furnish a useful starting point for devising a classification and list of commodities for use in industrial enquiries which would facilitate comparisons with external trade statistics.

C. TABLES FOR PUBLICATION.

53. The Seminar noted that a number of factors had to be taken into account in devising tables for publication. An important consideration was presenting the results of the industrial inquiry so as to facilitate use of data by those requiring general and summary information on the character and activities of industrial units and by those needing detailed information on a particular industry, area or other group of industrial units or on a particular aspect of industrial activity (e.g., employment, capital expenditures, output, etc). In either case it would be useful to arrange the results of industrial inquiries in tables so as to assist in studies of the relationships between the various items of data compiled. Other important considerations in devising tables were the costs and time involved in compiling and publishing the tables and maintaining the confidentiality of the data gathered from industrial units. These considerations and the available facilities for compilation and publication, would set limits to the detail with which the results of industrial inquiries could be shown.

54. Various approaches to the organization of tables for publication of industrial statistics have been utilized in countries of the region. In one instance, use had been made of a combination of summary tables, setting out the main data tabulated according to the various characteristics of the establishment and detailed tables, showing all of the various items of data gathered for each of the industries. In another instance, use had been made of industrial tables showing the items of data gathered on various topics (e.g., value added, employment) tabulated according to kind of industrial activity and/or the other characteristics of the establishment utilized as classifying elements.

55. The Seminar noted that in the illustrative table forms set out in Annex III of the papers, E/CN.14/CAS.2-ENQ/13, two approaches had been utilized to the organization of tables:

(i) Summary table form setting out the main aggregates that might result from comprehensive or annual enquiries tabulated by

kind of industrial activity, by size or geographic sub-division, or by other classification or cross-classifications of the pertinent characteristics of the establishment; and

(ii) Detailed table forms on each topic covered in a comprehensive or annual enquiry showing the various data on the topic classified by kind of industrial activity. In some countries these table forms would also be useful for the various geographic sub-divisions of the country. In one view some of the table forms were too costly and difficult to compile especially the illustrative table forms setting out data on quantities and values for industrial products or raw materials classified according to the kind of industrial activity of the producing or consuming establishments respectively.

56. The discussions of the Seminar pointed to the values especially for lay and general users of industrial statistics of issuing analyses of the major results of industrial enquiries. For such analyses, as well as other purposes, it would be useful to make historical comparisons between the results of successive industrial enquiries and to present analytical ratios such as output, consumption of electricity or wages and salaries per person employed or wages and salaries as a percentage of value added.

57. The Seminar wished to recommend publication, as set out in Annex IV of the papers, E/CN.14/CAS.2-INQ/13, ST/STAT/CONF.12/L.3, of descriptions of the scope, field of coverage, method of gathering data, and the definitions and classification schemes of industrial inquiries along with the results of these enquiries. Such descriptions would not only contribute to intelligent and appropriate use of the results of enquiries, but also provide a means for an exchange of technical information and experience among countries of the region. In this connexion however, mention was made of the difficulties, under some circumstances, of providing information on non-response.

D. EDITING

58. The Seminar next considered editing, coding and compilation of questionnaires in industrial enquiries. Most participants agreed that, where it was possible it was advantageous to do at least preliminary editing in regional offices, in order that any omissions or mistakes found could be quickly and relatively easily corrected. The recontacting of respondents, once the completed questionnaires had been sent to the central office had, in a number of countries, proved difficult. However, it was also stressed that final editing must be done at head office, either under the close supervision of a highly qualified statistician, or even, where the number of returns was not too great, by the senior statistician himself.

59. It appeared from the discussions that all, or most, African countries at present carrying out an industrial census, used the editing techniques mentioned in the paper under discussion. These were checking for completeness and for internal as well as external consistency. However, owing to the limited number of establishments in most African countries and the consequent small number of persons involved in editing, most countries did not find it worthwhile to set out the editing procedures in the form of a mannual.

60. On the detection of faulty answers to questionnaires, most countries resorted to personal visits to the establishments concerned. Some first utilized the mails, to varying degrees, in an attempt to elicite a satisfactory explanation. Generally it was only as a last resort that estimates were made for missing or faulty data.

E. CODING AND COMPUTATION OF DATA FOR PUBLICATION.

61. The general practice in most countries was to code the data contained on the questionnaires only after editing was completed. Clerical staff was usually used for this stage of the work; and they were provided with a coding manual.

F. COMPILATION.

62. The Seminar considered the four main methods of compiling data once the questionnaires were collected, edited and coded. These were:

a) Compilation directly from the questionnaire;

b) Compilation through worksheets;

c) Compilation through written or marginally coded cards;

d) Machine cards and machine tabulation.

It emerged from the discussion that each one of these techniques was used by at least one participant in the Seminar.

63. One participant felt that manual compilation, involving cross-classification of data, became too tedious and therefore too subject to error if used in enquiries involving more than 500 establishments. However, another participant stated that in his country, though part of the data was compiled by means of mechanical tabulation, another part of the data was left to manual processing for reasons of flexibility and in order to facilitate final checking of the data.

IV. SOURCES AND METHODS OF GATHERING INDUSTRIAL STATISTICS, INCLUDING THE USE OF THE INDUSTRIAL DIRECTORY AND SAMPLING

A. INTRODUCTION.

64. The discussions of the Seminar on the item of the agenda were based on the paper, Sources and Methods of Gathering Industrial Statistics, E/CN.14/CAS.2-ENQ/14, ST/STAT/CONF.12/L.4. The Seminar exchanged experiences and views on the uses of information that was a by-product of governmental administration and similar sources, on the relative advantages and disadvantages of the census and sampling approaches to the direct collection of industrial statistics, and on the appropriate circumstances for use of alternative methods of locating, identifying and enumerating respondents for an industrial enquiry.

B. SECONDARY SOURCES OF DATA.

65. In most of the countries of the region presented at the Seminar, use is made of the information that is a by-product of governmental administrative activities to build and maintain efficient directories (and card indexes) of establishments, particularly the large units among them,

to be covered in industrial enquiries. The particular source(s) utilized for this purpose varied from one country to another, depending on the character of the administrative activities which would provide the required information. Taxation authorities, the social insurance schemes, factory inspection, or ministries licencing or regulating businesses were mentioned. In some countries, the information obtained from governmental administrative sources is supplemented by lists of units from private trade or similar associations, telephone directories, etc. The Seminar considered that on the whole, the lists obtained from the above mentioned sources furnish sufficiently complete and reliable information for locating and identifying the larger units. This was not the case, however, for the smaller units and countries covering the smaller units e.g. establishments engaging fewer than nine persons and handicrafts have found it necessary to supplement the lists by field canvassing, usually of a sample of areas. In some of these instances, the opportunity was taken to evaluate, as well, the lists of the larger units compiled from administrative records.

66. In some countries, data on industrial units that were a by-product of governmental administrative activity had also been compared with data gathered by the statistical authorities, as part of a checking and analysis procedure. There was close co-operation between the statistical and administrative authorities in a number of countries, and as a result of this, the requirements of the statistical authorities had not infrequently been taken into account in designing administrative forms and records.

C. DIRECT COLLECTION OF DATA THROUGH CENSUSES OR SAMPLE SURVEYS.

67. The census approach to the direct collection of data was utilized, and would continue to be utilized, by countries of the region in the case of larger industrial units. The number of large units was relatively small and centralized mail enquiries could, on the whole, be utilized. Therefore, the use of sampling would not result in significant economies in the costs or time of enumeration. Furthermore, rather detailed tabulations of data were required in the case of the larger units because of their importance in economic development, and the use of samples would prohibit the presentation of the results of the enquiry in sufficient detail.

68. The Seminar felt that in a number of countries of the region the situation was different in the case of the small units. There were many such units, spread over the country, and, in general, these units needed to be located, identified and enumerated by means of field visiting. Considerable economies in the costs and time of covering such units could therefore be realized through the use of the sampling approach, while keeping the sampling error in the estimates of the aggregates desired in the case of the small units within predetermined limits. In some countries represented at the Seminar, sampling had been, or would be, used in gathering industrial statistics for the smaller establishments. Two-stage sampling had been utilized - the first stage consisted of a sample of areas and at the second stage, respondents were selected from the lists of small units in these areas. In one country different sample enquiries of this type were taken for each major kind of handicraft activity. In another country, a single sample enquiry covered all kinds of small units but use was made at the second stage of stratification by kind of industrial activity and probabilities of selection proportional to the variances of the number of engaged in the establishments falling into each stratum.

69. In the case of one country, use was also made of sampling in order to evaluate the lists of large units built and maintained from governmental administrative sources and to measure response error through post-enumeration surveys.

D. METHODS OF LOCATION AND ENUMERATION AND THE INDUSTRIAL DIRECTORY.

70. The experience of the countries represented at the Seminar indicated that the use of the centralized mail approach i.e. identification by means of an industrial directory (card index) distribution and collection of questionnairies through the mails was, on the whole, successful in the case of the larger industrial units. This was particularly the case where enquiries had been taken over a number of years and where field visits were utilized to gather questionnaire from defaulting respondents. It had not infrequently been necessary to utilize the directed field approach

i.e. supplementation of the directory (card index) through field canvassing and enumeration through personal visits, in the case of the smaller of the large units. The Seminar agreed that sampling field enquiries based on intensive field canvassing and field enumerating - were required in the case of the small, handicraft or household centered establishments. The attention of the Seminar was drawn to the advantages of combining this type of industrial enquiry with a population type enquiry, at least at the stage of field canvassing.

V. QUESTIONNAIRES, OTHER FORMS AND PROCEDURES FOR LARGER SIZE UNITS IN INDUSTRIAL INQUIRIES.

A. INTRODUCTION.

71. The Seminar then turned to Item 5 on the agenda, basing its discussion on the paper, Questionnaires, Other Forms and Procedures for Larger Size Units in Industrial Inquiries, E/CN.14/CAS.2-INQ/15, ST/STAT/CONF.12/L.5, and in particular Annex I, which contained a specimen questionnaire designed to relate to large manufacturing units in a comprehensive inquiry.

72. The Seminar noted that the specimen questionnaire was designed to illustrate, concretely and precisely, the form in which the items of data, recommended by the Statistical Commission in the larger manufacturing establishments, might be sought. The Seminar had earlier agreed that these recommendations furnished a valuable and realistic programme towards which countries could work. In addition to the items on which data were wanted, the following considerations, which were of importance in any circumstances, entered into the design of the specimen questionnaire : (i) The way in which the various items of data might be defined. (ii) The way in which the activities and records of large manufacturing units were likely to be organized and managed. (iii) Facilitating the editing, coding andcompilation of questionnaires. The definitions of the items of data utilized in the specimen questionnaire were those recommended by the Statistical Commission.

73. It was emphasized that the specimen questionnaire was indicative of only one way in which the various items of data might be formulated in a questionnaire. The form in which the various queries were put would necessarily reflect the way in which respondents organized and arranged their activities, kept their records and received the enquiry, as well as the objectives of the enquiry. As these circumstances would differ to varying degrees from one country to another, alterations or modifications would be required in the form and organization of the various queries. The specimen questionnaire would help focus the discussion of these questions.

74. In connexion with the 1963 World Programme of Basic Industrial Statistics, the attention of the Seminar was drawn to the two lists also contained in Annex I of the paper, E/CN.14/CAS.2-ENQ/15, ST/STAT/CONF.12/L.5, which set out:-

(a) The Items contained in the Specimen Questionnaire which the Statistical Commission did not recommend for inclusion in the 1963 World Programme; and

(b) The Items contained in the Specimen Questionnaire which the Statistical Commission recommended as optional for inclusion in the 1963 World Programme.

B. DEFINING AND IDENTIFYING THE STATISTICAL UNIT.

75. Participants first concerned themselves with Parts I, Establishment Description, and II, Identification and Description of the Parent Enterprise of the Specimen Questionnaire. Divergent views were expressed on these sections. In one view it was not necessary to gather the details of the period of operation or any changes in status of the establishment during the reference year of the enquiry. In another view, this information was valuable in view of the seasonal character of a significant number of establishments and the turnover in industrial units.

76. Questions were also raised concerning the need of the questions in Part II that were designed to identify and describe multi-unit parent enterprises of the establishments surveyed and the way in which the queries were formulated. One participant felt that the limited number of multi-unit

enterprises in African countries and the information concerning them available in industrial directories and other sources obviated any need for questions of this type. The omission of such queries would simplify the questionnaire and avoid the dangers of overwhelming respondents. In the view of some members of the Seminar the use of "yes, no" multi stage check queries was confusing to respondents, it would be much better to pose direct queries.

C. EMPLOYMENT, MAN HOURS AND WAGES AND SALARIES.

77. The Seminar agreed on the need for the detailed queries on employment, man hours and wages and salaries shown in Part III of the specimen questionnaire, though one participant felt that some parts of this information might more easily be collected in an employment survey. Some amendments were suggested which, it was thought, would make the specimen questionnaire more valuable for use generally or in particular countries. These included the specific mention in the definition of employees that they included directors of the firm other than those paid by fee only. A number of participants felt that in African countries, it was important to distinguish the number of persons engaged according to national origin. Mention was also made of the need to distinguish payment in cash from payments in kind in the case of wages and salaries.

D. INSTALLED POWER EQUIPMENT.

78. The Seminar noted the need for careful wording and arrangement of the queries on these items of data in order to avoid double counting.

E. ELECTRICITY PURCHASED, GENERATED AND SOLD.

79. In one country taking part in the Seminar difficulties had been experienced in gathering figures of the quantity of electricity purchased or generated. Larger industrial units often purchased electricity at a bulk tariff i.e. regardless of the amount consumed up to a certain maximum, consequently it was difficult for these units to furnish quantity figures of electricity purchased. In the case of the generation of electricity, respondents

often did not keep records on this subject.

F. INVENTORIES INDUSTRIAL COSTS AND OUTPUT.

80. A few members of the Seminar felt that in their countries it would not be feasible to request the sub-division of inventories into raw materials, work in process, and finished goods. In one country total figures of stocks at the beginning and at the end of the year were accepted. The possibility of gathering realistic values for work in process was also doubted by some participants. However, it was recognized that considerable limitations were imposed upon the use of the data collected on inventories if distinctions were not made between the various types of stocks held. For example, if data were sought on deliveries for raw materials and like items and shipments for products the sub-division of stocks was required to convert these figures to consumption of raw materials and production of goods, respectively.

81. In the light of the earlier discussions of the items of data on inputs and outputs the Seminar agreed that a predesignated list of raw materials and products, as indicated in the specimen questionnaire, was of considerable value.

82. The Seminar discussed the relative advantages of gathering output data in terms of shipments or production. It indicated that the shipment approach was utilized in specimen questionnaire because it was felt that many large units could more easily provide reliable figures on shipments than on production. A number of countries in other regions of the world had in fact shifted from the production to the shipment approach to data on output for this reason. It was emphasized, on the other hand, that the data gathered through the production approach were more useful than data gathered through the shipment approach. In the case of data on industrial products, figures of the quantities and values produced rather than shipped were wanted. This was the case, for example when utilizing these data for purposes of constructing index numbers of industrial production or comparisons with inventories, exports and domestic consumption. In view of these important uses, it was noted that some countries utilizing the shipment approach, also requested data

on quantities of individual commodities produced. Further, the production approach yielded directly the data required in compiling value added whereas the shipments approach, figures of inventories were also required for this purpose. The Seminar noted that the recommendation of the Statistical Commission allowed the use of either approach to the gathering of data on outputs.

83. Mention was made of the usefulness of gathering data on non-industrial costs, such as communication and transportation services, insurance premiums, consultants fees, rents and royalities, for purposes of national income accounting. It was agreed that data on these types of costs were best gathered for enterprises instead of establishments and that successful collection of these costs required their itemization since certain items (e.g., losses on bad debts, depreciation charges, interest paid) while consideration expenses in business accounting, were not considered deductions in computing the contribution to the gross domestic product. It was also indicated that value added, as defined for purposes of industrial enquiries, was gross of these costs.

84. It was suggested that requesting data on indirect taxes, such as excise duties, as was done in the specimen questionnaire, might have an adverse affect on the co-operation of respondents. It was further indicated that, at least in the case of one country, the required data, classified according to kind of industrial activity, were available from tax authorities.

G. EXPENDITURE AND SALES OF FIXED ASSETS.

85. The discussion of this part of the specimen questionnaire dealt with the case of fixed assets whose production was spread over more than one enquiry period. The Seminar considered the relative advantages of including data on expenditures for such fixed assets in the period during which the fixed assets were completed and delivered to the control of the purchasing establishment or in the reference period during which a particular part of the fixed assets was constructed or produced. The former approach was adopted in the specimen questionnaire though the recommendations of the Statistical Commission allowed use of either of the two approaches.

in the case of fixed assets which took a long time to construct - for example, buildings, heavy rolling mills, large turbines.

86. It was noted that the expenditure data gathered under the approach taken in the specimen questionnaire, supplemented by output data of fixed assets with a long production cycle, would provide complete information on capital formation, as would the expenditure data gathered under the alternative approach. In the case of the former approach, the expenditure data would need to be supplemented with data on the value of work put in place on buildings, large turbines, etc., obtained from the data on outputs recorded by construction, heavy machinery, building and similar units. However, the approach taken in the questionnaire did provide data on the additions to the actual productive capital of industrial units whereas in the alternative, some of the reported expenditures on fixed assets would relate to fixed assets being constructed. Further, purchasers of fixed assets might have difficulties in furnishing reliable figures on the value of the work put in place during the reference period on fixed assets being constructed for them. Respondents could furnish data on progress payments made in connexion with these fixed assets but there might not be an exact relationship between the value of these progress payments and the value of the work put in place.

H. SIGNATURE OF RESPONDENTS.

87. Concerning the request for the respondents signature to the declaration on the specimen questionnaire one view was that this might discourage the respondent from completing the questionnaire and lead him to associate the enquiry with government regulatory or similar activities. A further view was that requiring the signature would help impress on respondents the need and in the case of some countries, the statutory obligation as well, to furnish accurate and complete information.

I. SUPPLEMENTARY QUESTIONNAIRES FOR HEAD OFFICES AND OTHER GENERAL ANCILLARIES.

88. The Seminar noted that the purpose of the specimen supplementary questionnaire was not merely to check and confirm the data available from the aggregation of the data for individual industrial establishments of

multi-unit enterprises but to supplement this data by data on the central ancillary units and some other omitted activities of multi-unit enterprises. If the head office or a central warehouse or some other central ancillary unit were located separately from any of the individual industrial establishments, then the aggregation of returns of these latter units would not represent the total activity of the enterprise. Further the enterprise might be making expenditures on fixed assets in connexion with plants which were not yet operating.

89. Two approaches were available for collection data on the otherwise omitted activities of the multi-unit enterprise. The head office of the enterprise could be requested to complete a return covering all the activities of the enterprise including those already covered in returns for individual industrial establishment. Or, the head Office could be asked to submit a return covering only the activities of the head office itself and any other central ancillary unit(s) located separately from the individual industrial establishments. In the specimen supplementary questionnaire either approach was used, depending on the relevant items of data. It was felt, for example, that expenditure on fixed assets would be more easily available for the multi-unit enterprise as a whole; hence the form of Question 31. The same considerations of availability was thought to apply to the value of inventories or of sales. On the other hand, for number engaged, and the details of Wages and Salaries paid, it was thought that separate data would be readily available for the head office itself or any other central ancillary units. Hence the queries in the specimen supplementary questionnaire on these items were limited to these individual units.

VI. QUESTIONNAIRES, OTHER FORMS AND PROCEDURES FOR SMALL AND HOUSEHOLD TYPE UNITS IN INDUSTRIAL ENQUIRIES

90. The Seminar considered the paper, Questionnaires, Other Forms and Procedures for Small and Household Type Units in Industrial Enquiries, E/CN.14/CAS.2-ENQ/16, ST/STAT/CONF.12/L.6, and, in particular, Annex I of

the paper in discussing this item of the agenda. Annex I of the paper consisted of a speciman questionnaire for small scale manufacturing units.

91. The Seminar noted that, as in the case of Annex I of the paper, E/CN.14/CAS.2-ENQ/15, ST/STAT/CONF.12/L.5, the specimen questionnaire was designed to illustrate, in detail, the form in which the items of data recommended by the Statistical Commission for small manufacturing establishments might be sought. For use in any particular country or enquiry the specimen questionnaire would need to be adapted in the light of the character of the small units being covered and the way in which the enquiry was being conducted.

92. It was suggested that the specimen questionnaire was more suitable for use in the case of small manufacturing units than in the case of very small, household-centered or handicraft units. Questions were raised, for example, concerning the relevance of the query on electricity generated, included in the specimen questionnaire, in the case of very small or handicraft units. Stress was placed on the usefulness and feasibility of including queries on the quantity and value of raw materials utilized in questionnaires directed to the very small units, as well as to the small manufacturing establishments. The Seminar agreed that the query on merchanted goods was rightly included in the questionnaire since its exclusion might lead to the non-collection of information on the commercial activities of small units, which information, though not strictly relevant to obtaining information on industrial statistics, was nevertheless useful for other purposes.

93. Except for the points mentioned in the preceding paragraph, the Seminar felt that the specimen questionnaire furnished useful and realistic guidance concerning possible questionnaire forms for use in gathering data from the small and very small manufacturing units. The Seminar wished to emphasize that its brief discussion of this item of the agenda was not indicative of the significance the Seminar attached to the inclusion of the small and very small manufacturing units, in at least comprehensive enquiries into the industrial sector, and to discussion of methods, forms and procedures for this purpose. It should be evident from the proceeding portions of this report that the Seminar considered these questions to be very important. The brief discussion under this item of the agenda was due to the fact that most of the relevant questions had already been dealt with under earlier items of the agenda.

Agenda

1. Opening and organization of the Seminar
   (a) Election of Chairman.
   (b) Adoption of agenda.
   (c) Schedule of sessions and organization of discussions.
2. The objectives, coverage and content of the various inquiries of a system of industrial statistics, with particular reference to the adaptation of the 1963 World Programme to African conditions.
3. Classification systems, tables and methods for compiling and publishing industrial statistics.
4. Steps in planning and carrying out industrial inquiries and sources and methods of gathering industrial statistics, including the use of the industrial directory and sampling.
5. Questionnaires, other forms and procedures for the larger units in industrial inquiries.
6. Questionnaires, other forms and procedures for small and household-type units in industrial inquiries.
7. Adoption of report.

A - List of DOCUMENTS prepared for the Seminar by the Statistical Office of the United Nations.

Symbol No.	Date	Title	Language
E/CN.14/CAS.2-ENQ/11 ST/STAT/CONF.12/L.1	28 March 1962	Planning, Preparing and Programming Industrial Inquiries.	E . F
E/CN.14/CAS.2-ENQ/12 ST/STAT/CONF.12/L.2	17 May 1962	Objectives and Contents of a System of Industrial Statistics.	E . F
E/CN.14/CAS.2-ENQ/13 STpSTAT/CONF.12/L.3	28 March 1962	Classification Systems, Tables and Methods for Compiling and Publishing Industrial Statistics.	E . F
E/CN.14/CAS.2-ENQ/14 ST/STAT/CONF.12/L.4	28 March 1962	Sources and Methods of gathering Industrial Statistics including the use of sampling and the Industrial Directory.	E . F
E/CN.14/CAS.2-ENQ/15 ST/STAT/CONF.12/L.5	2 April 1962	Questionnaires, other forms and procedures for larger-size units in industrial inquiries.	E . F
E/CN.14/CAS.2-ENQ/16 ST/STAT/CONF.12/L.6	28 March 1962	Questionnaires, other forms and procedures for small and household type units in industrial inquiries.	E . F

B - Other background documents.

1. Internation Recommendations in Basic Industrial Statistics. A Guide to Objectives and Definitions

Statistical Papers Series M No.17, Rev.1.
United Nations, New York, 1960.

2. International Recommendations on the 1963 World Programme of Basic Industrial Statistics.

Statistical Papers Series M No.17, Rev.1, Add.1.
United Nations, New York, 1960.

3. International Standard Industrial Classification of all Economic Activities.

Statistical Papers Series M No.4, Rev.1.
United Nations, New York, 1958

LIST OF PARTICIPANTS

Country	Name	Title and Address
CAMEROUN	M. ESSOME Antoine	Ingénieur économiste Service de Statistique Générale BP 660, Yaoundé
CONGO-Leo	M. ILUNGA Donatien	Chef de Bureau Service de Statistique du Congo BP 20, Léopoldville
	M. MIANSANGI Gabriel	Sous-Directeur des Statistiques BP 20, Léopoldville
CONGO-Brazza	M. GOMA-GANGA Jérôme	Chef du Service de la Statistique BP 2031, Brazzaville
DAHOMEY	M. DAGNON Barthélémy	Chef du Service de Statistique Direction des Enquêtes et Etudes Statistiques, Porto-Novo
GABON	M. ABDOULAYE Mocktar	Ingénieur des Travaux statistiques Ministére de l'Economie nationale Libreville
GHANA	Mr. YANAKIEV Rumen	UN Expert P.O. Box 1423, UNTAB Accra

Country	Name	Title and Address
KENYA	Mr. CRAIG John	Economist/Statistician P.O. Box 30266 Nairobi
LIBYA	Mr. DAJANI Sami W.	UN Statistics Expert c/o UNTAB P.O. Box 358 Tripoli
	Mr. MEKKI Kaled Mahmud	Ministry of Industry Tripoli
	Mr. ZOGHNI Aissa Soliman	Assistant-Director Central Statistical Office Tripoli
MOROCCO	M. NABAOUI Ahmer	Chef de Cabinet du Ministre du Commerce et de l'Industrie Rabat
NIGERIA	Mr. OGUNNIYI A. Olu	Statistician Ministry of Economic Planning Ibadan
	Mr. ADEWOLE E.A.	Assistant Chief Statistician c/o Federal Office of Statistics Lagos
RHODESIA & NYASALAND (Federation of)	Dr. MAYWALD Karel	Senior Statistician P.O. Box 8063 Causeway Salisbury
SUDAN	Mr. ELHINDI Mohamed El Amin	Statistician Department of Statistics Khartoum

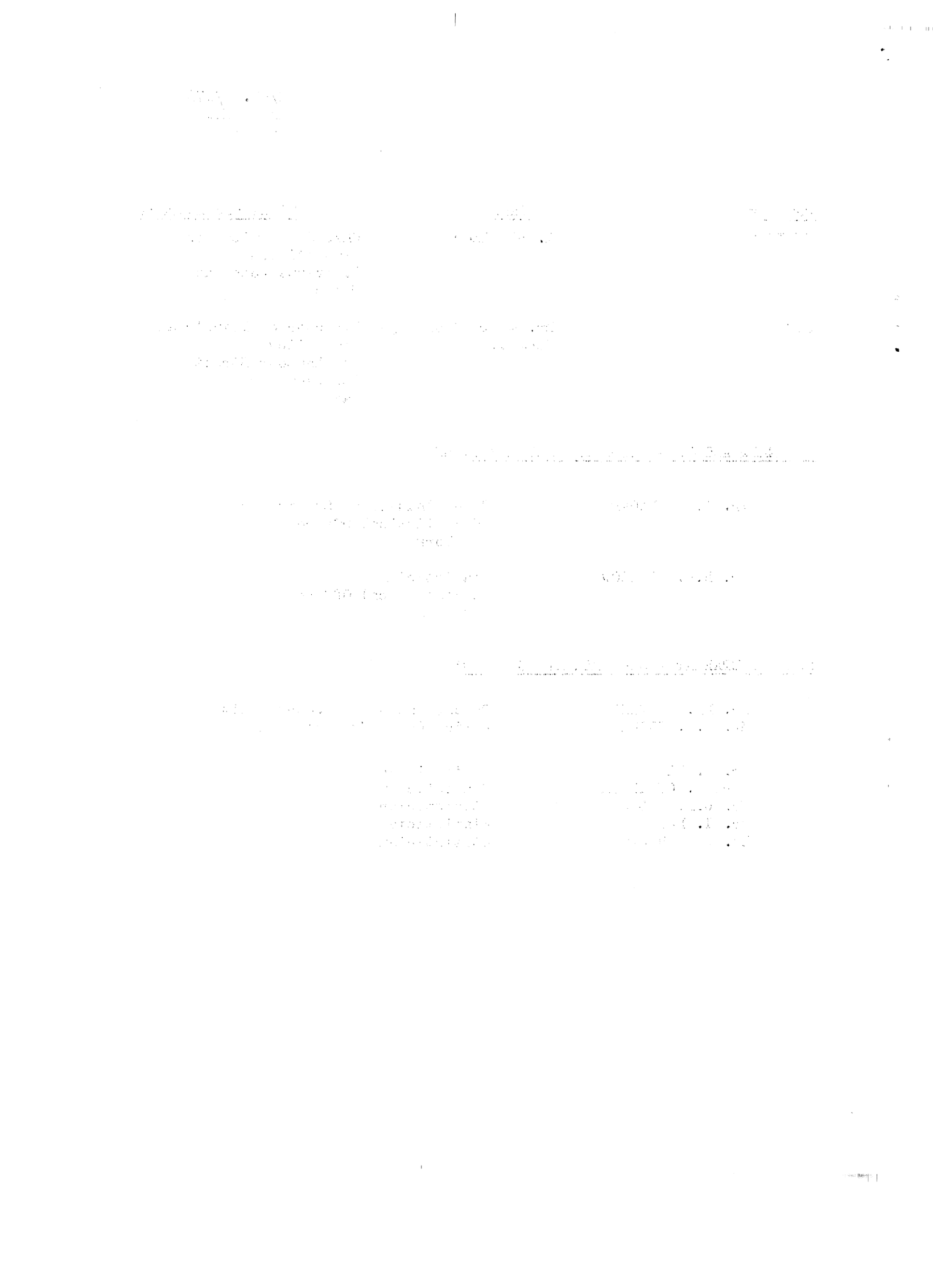
Country	Name	Title and Address
TUNISIA	M. BEN Amor	Chef de Service des Statistiques 1, avenue Jean Jaurés Tunis
UAR	Mr. MAHMOUD El Sayed Mahmoud	Director of Industrial Statistics 15, Mansour Street Dawaween Post Cairo

UN HEADQUARTERS - SIEGE DES NATIONS UNIES

Mr. A. AIDENOFF	Chief Industrial Statistics UN Statistical Office New York
Mr. R.M. AINSCOW	Statistician UN Statistical Office New York

ECA SECRETARIAT - SECRETARIAT DE LA CEA

Mr. Ph. BERTHET	Chief, National Accounts Unit
Mr. W.L. BOOKER	Acting Chief Statistician
Mr. I. BA	Statistician
Miss P. CULABUTAN	Statistician
Mr. C.A. ELLIS	Statistician
Mr. I. FALL	Statistician
Mr. B. MAHAJAN	Statistician



International recommendations on the 1963 World Programme of basic industrial statistics:

THE STATISTICS AND SURVEY DESCRIPTIONS TO BE PUBLISHED AND THE ITEMS OF DATA TO BE GATHERED

Reproduced from Statistical Papers, Series M, No.17, Rev 1, United Nations, New York.

A. The Statistics to be Published and the Associated Items of Data to be Gathered.

Set out in the table below are the statistics recommended for publication in the 1963 World Programme. Indicated for each of these statistics is the priority accorded its publication and the characteristics of the establishment (or local unit) by which it should be tabulated. Also listed in the table, together with the publication statistics, are the items of data that must be gathered for individual establishments (or local units) in order to produce the required statistics. In many cases, of course, the items of data are gathered and published in the same form.

It is proposed that all the statistics recommended for publication be published separately for each kind of activity (industry). In addition, it is recommended that certain of these statistics be published separately for the establishments (or local units) falling within each size class within each kind of activity (industry). The usefulness of the published statistics, is, of course, enhanced the more detailed is the classification employed. To provide an adequate basis for international analysis, the industrial classification should be at least at the two and preferably three-digit level of the International Standard Industrial Classification of ALL Economic Activities [1] for those activities of significance in each country. The level of detail in the industrial or size classification at which data are shown will, however, depend in any particular case on the number of units falling within each industrial or size category, the legal limitations on

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1/ Statistical Papers, Series M, No.4, Rev.1.

disclosure of data concerning individual units, and whether sampling techniques are used that limit the possibility of making reliable estimates for narrowly defined categories. It is expected that the industrial classification system used will be convertible to the International Standard Industrial Classification of All Economic Activities. It is recommended that in classifying units by size according to the average number of persons engaged, at least 5, 10, 20, 50 and 100 be utilized as lower class limits. If for the reasons noted above fewer classes yet must be used, whole classes should be combined - e.g., using as lower class limits of 10, 50 and 100.

In the table below a distinction is made between items of data that might appropriately be gathered for the small establishments (or local units) enumerated and those that might be gathered for the larger units. Within each of these two categories each item of data is indicated as being first priority (noted in the table by an entry of 1), second priority (noted in the table by an entry of 2) or not recommended for collection (no entry). These priorities for the collection of the items of data carry over, of course, to the published statistics. The priority indicated for each item is based on consideration of three factors (i) the relative usefulness of and need for the published statistics of which the item is a part (or the whole), (ii) the difficulties likely to be encountered in gathering the item in question in a consistent fashion, and (iii) the additional cost and effort required to compile and tabulate the item according to the indicated characteristics of the establishment (or local unit).

Statistics and Items of Data	To be Classified By				To be Gathered in order to compile the statistics indicated in columns (1) through (4)	
	Industry		Industry and Size Class			
	All statistical units (1)	Larger statistical units only (2)	All statistical units (3)	Larger statistical units only (4)	For the smaller statistical units (5)	For the larger statistical units (6)
A. Characteristics of the Statical Unit						
1. Kind of activity (industry)					1	1
B. Number of Statistical Units a/	1		1			
C. Total Number of Persons Engaged during a Single Period of the Inquiry Year distinguishing b/	1		1		1	1
1. Number of working proprietors					1	1
2. Number of unpaid family workers					1	1
3. Number of home workers (optional) c/					1	1
4. Number of employees	1				1	1
D. Number of Employees Engaged during Several Specified Periods of the Inquiry Year					2	1
E. Average Number of Employees Engaged during the Inquiry Year d/	1		1			
F. Average Number of Persons Engaged during the Inquiry Year e/	1		1			
G. Wages and Salaries Paid during the Inquiry Year						
1. To employees	1		1		1	1
2. To home workers (optional) c/	1				1	1
H. Capacity of Power Equipment, in Use and in Reserve, Installed as of a Given Date during the Inquiry Year f/	1		1			
1. Prime movers, distinguishing those not driving electric generators from others f/	1				1	1
2. Electric motors, distinguishing those driven by purchased electricity from others f/	1				1	1
I. Total Cost of New Fixed Assets Acquired from Others or Produced during the Inquiry Year g/		1				1
1. Machinery and transport and other equipment		1				1
a. Acquired from others						1
b. Produced for own use						1
2. Buildings, improvements to land and other construction		1				1
a. Acquired from others						1
b. Produced for own use						1

THE STATISTICS RECOMMENDED FOR PUBLICATION AND THE RELEVANT ITEMS OF DATA TO BE GATHERED (Continued)

Statistics and Items of Data	To be Classified By				To be Gathered in order to compile the statistics indicated in columns (1) through (4)	
	Industry		Industry and Size Class			
	All statistical units (1)	Larger statistical units only (2)	All statistical units (3)	Larger statistical units only (4)	For the smaller statistical units (5)	For the larger statistical units (6)
J. Total Cost of Used Fixed Assets Acquired during the Inquiry Year g/						1
1. Machinery, transport and other equipment						1
2. Buildings, improvements to land, other construction and land						1
K. Total Value of Sales during the Inquiry Year of Fixed Assets Used by the Statistical Unit						1
1. Machinery, transport and other equipment						1
2. Buildings, improvements to land, other construction and land						1
L. Gross Additions to Fixed Assets during the Inquiry Year (Items I+J-K) g/		1		1		
1. Machinery, transport and other equipment		1				
2. Buildings, improvements to land, other construction and land		1				
M. Value of Stocks at the Beginning and End of the Inquiry Year h/						
1. Raw materials, fuels, supplies, etc. (including goods ordinarily to be sold in the same condition as purchased)		1				1
2. Work in process		1				1
3. Finished goods produced		1				1
N. Quantity of Electricity Consumed during the Inquiry Year i/	1		1			
1. Quantity and cost of electricity purchased	1				1	1
2. Quantity of electricity generated	1				1	1
3. Quantity and value of electricity sold to others j/		1				1
O. Cost of Goods Received or Consumed and Payments for Services Rendered during the Inquiry Year	2	1				
1. Cost of raw materials, supplies, components, etc. k/ l/	2	1			2	1
2. Cost of fuels l/	2	1			2	1
3. Cost and quantity of individually important fuels l/	2	1			2	1
4. Cost of goods to be sold in the same condition as purchased (optional) k/	2	1			2	1
5. Cost of contract and commission work done by others during the Inquiry Year c/	2				2	1

THE STATISTICS RECOMMENDED FOR PUBLICATION AND THE RELEVANT ITEMS OF DATA TO BE GATHERED (Continued)

Statistics and Items of Data	To be Classified By				To be Gathered in order to compile the statistics indicated in columns (1) through (4)	
	Industry		Industry and Size Class			
	All statistical units (1)	Larger statistical units only (2)	All statistical units (3)	Larger statistical units only (4)	For the smaller statistical units (5)	For the larger statistical units (6)
P. Value of Goods Shipped or Produced and Receipts for Services Rendered to Others during the Inquiry Year m/					1	
1. Value of all products of the statistical unit n/	2	1			2	1
2. Value and quantity of individually important products n/	2	1			2	1
3. Value of goods shipped in the same condition as purchased	2	1			2	1
4. Receipts for industrial work done or services rendered to others					2	1
Q. Gross Output during the Inquiry Year o/	1		1			
R. Value Added p/	1		1			

For footnotes see following page.

FOOTNOTES

a/ "Number of establishments" is generally tabulated together with the other items of data. Where, because of non-response, the item being tabulated relates only to a part of the whole field, the "number of establishments to which the item of data relates" should also be indicated.

b/ Sum of items 1, 2, 4 and, optionally, 3 listed below.

c/ If "homeworkers" are not included in the count of numbers engaged, then payments to homeworkers should be included in item 0.5 ("Cost of contract and commission work") rather than item G. ("Wages and salaries").

d/ Computed from item D. above.

e/ Defined as the sum of "average number of employees" (item E.) plus number of "working proprietors", "unpaid family workers" and, optionally, "homeworkers". In classifying establishments according to average number engaged, at least 5, 10, 20, 50 and 100 should be used as lower class limits wherever possible.

f/ The capacity of installed power equipment is equivalent to either the sum of the "capacity of prime movers not driving electric generators" and the "capacity of all electric motors", or the sum of the "capacity of all prime movers" and the "capacity of electric motors driven by purchased electricity". Because of the difficulty of distinguishing the electric motors driven by purchased electricity, the first method of computation is often preferred. If this approach is used, it is not necessary to distinguish electric motors by source of energy.

g/ Within these groups, it is suggested that expenditures for new plant (and its associated machinery and equipment), not in operation as of the end of the reference year, be separately distinguished. Such expenditures should be classified either by the industry code of the central office of the enterprise (legal entity) or to the industry code in which the new plant will fall. Classification by size is not suggested.

h/ See Part III below for suggested alterations in the categories of stocks for particular industries.

i/ For the larger statistical units: item 1 plus 2 minus 3. For the smaller statistical units: item 1 plus 2.

j/ In the case of units principally engaged in the production of electricity, item N.3 should be requested regardless of the size of the unit.

k/ If a separate item of data is not gathered on total cost of goods to be sold in the same condition as purchased, this cost should be included in the cost of raw materials, supplies, etc. For the smaller units this total should not include the cost of materials received or consumed for the production of fixed assets for own use.

l/ If requested on a "consumed" basis, data should relate to value of goods acquired from outside the statistical unit.

m/ If the total only is gathered for the smaller statistical units, it should be defined to include items 1, 3 and 4 listed below.

n/ If requested on a "production" basis, data should relate to value of goods produced for sale or shipment to other statistical units.

o/ A. For the larger statistical units:

1. If data are requested on a "shipped" basis: Sum of items P.1 (corrected for changes in stocks of work in process and finished goods - items M.2 and 3), P.3, P.4, N.3, I.1.b and I.2.b.

2. If data are requested on a "produced" basis: Sum of items P.1 (corrected for changes in stocks of work in process - item M.2), P.3, P.4, N.3, I.1.b and I.2.b.

B. For the smaller statistical units: Same as item P.

C. The valuation basis should be specified - i.e. whether at "market prices" or at "factor cost".

p/ A. For the larger statistical units:

1. If input data are gathered on a "received" basis: Item Q less items 0.1, 0.2 and 0.4 (corrected for changes in stocks of raw materials, etc. - Item M.1), 0.5 and N.1.

2. If input data are gathered on a "consumed" basis: Item Q less items 0.1, 0.2, 0.4, 0.5 and N.1.

B. For the smaller statistical units:

1. If input data designated as priority 2 are not gathered: Value added would be estimated on the basis of item Q (Gross output), taking into account the relation between gross output and value added in the smallest size class within the same industry group for which the full range of data is available.

2. If input data designated as priority 2 are gathered: Item Q less item 0.

C. The valuation basis should be specified - i.e. whether at "market prices" or at "factor cost".

B. The Survey Descriptions to be Published

To enable the users of the published statistics to evaluate their comparability - both with the statistics from other surveys in the same country and to the statistics of other countries - and to assess their reliability, the following information should be published.

i. A description of the scope of the inquiry (i.e., which industrial and other activities were included in the field of inquiry) and a definition of the statistical unit in terms of which the field of inquiry was defined and the items of data were gathered and compiled.

ii. A description of the coverage of the survey (i.e., whether industrial units of all sizes were included, etc.).

iii. A description of the methods of covering the field of inquiry - whether by direct collection (by mail or by field enumeration), administrative reports or sampling (including a description of the sample design used and estimates of probable sampling errors). This description might also include an evaluation of the completeness of coverage attained.

iv. The operational definitions of the items of data gathered - perhaps in the form of copies of the questionnaires and basic instructions used. The definitions of statistics that have been compiled, in addition to these items of data should also be given.

v. The extent and treatment of any non-response including:

a. The number and the importance of known units failing to respond to the questionnaire together with, if possible, some of the key characteristics of these non-respondents - i.e., kind of activity and size particularly. Also, whether estimates for these non-respondents have been included in the published data.

b. The extent of the non-response to particular questions for which no estimates have been or could be made.

vi. A description of the industrial and other classifications used.

vii. A measure of the extent to which the data shown for each published industrial classification heading relate to activities that, had they been separately reportable, would have been classified to other categories of the classification. One such measure is the homegeneity ratio. This is the ratio of the "value of output, by the units classified to the industry heading indicated, of products and services that are correctly classifiable to that heading" to "total value of output of these same units".

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