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REPORT OF THE LATIN AMERICAN SEMINAR ON INDUSTRIAL STATISTICS

(Quito, 7-16 December 1966)

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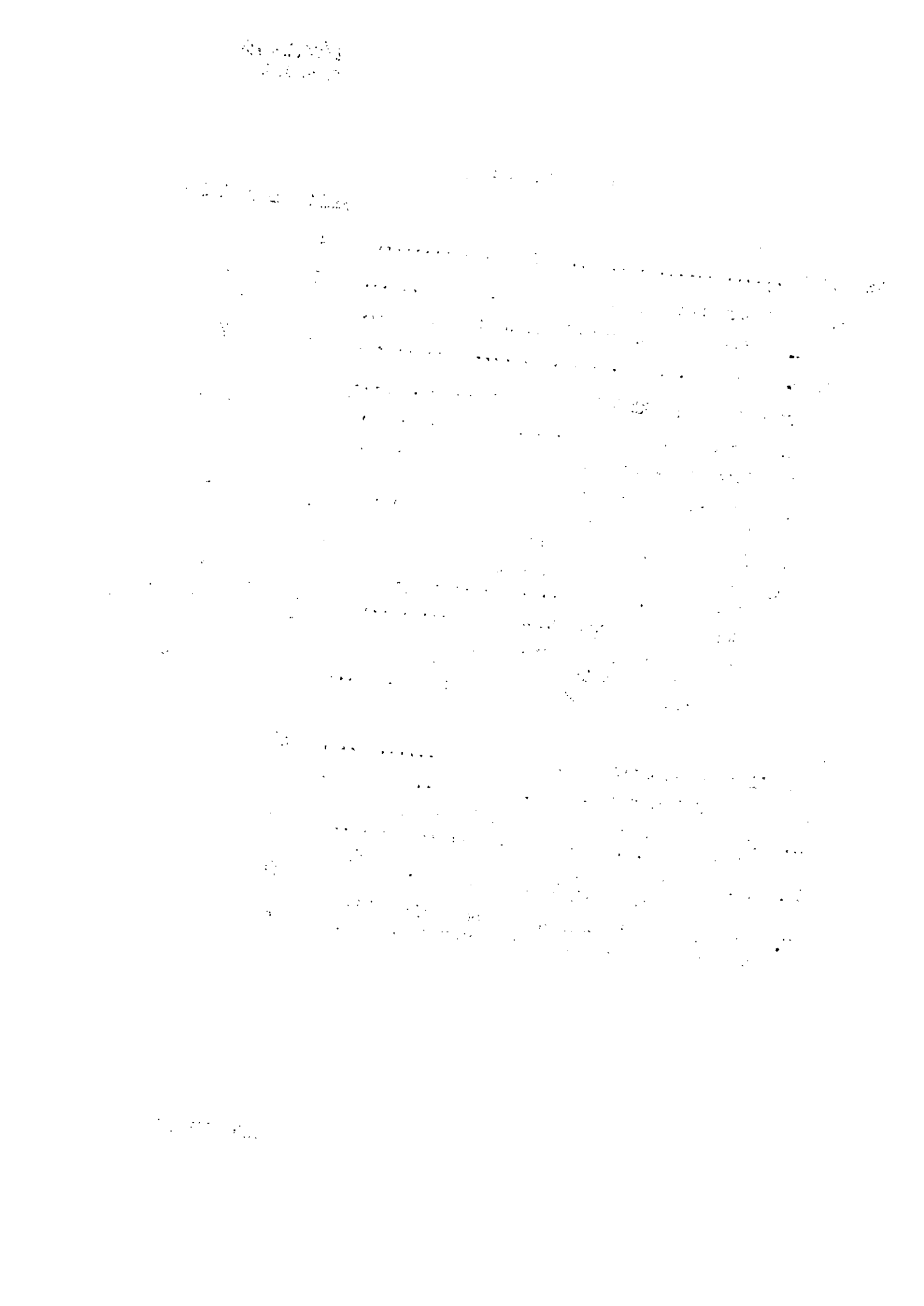

INTRODUCTION

The Latin American Seminar on Industrial Statistics, jointly sponsored by the Economic Commission for Latin America (ECLA), the Statistical Office of the United Nations, the Inter-American Statistical Institute (IASI) and the United Nations Bureau of Technical Assistance Operations (BTAO), was held in Quito, Ecuador, from 7 to 16 December 1966. The Government of Ecuador, through the National Economic Planning and Co-ordination Board, acted as host.

Industrial statistics in the Latin American countries have not progressed sufficiently in recent years to meet the needs of economic development planning. Although the progress achieved since the Seminar on Industrial Statistics was held in Santiago at the end of 1960 was by no means negligible, much still remained to be done and it was felt that a further seminar should be held.

The main purpose of the Seminar was to study the present situation in industrial statistics in each country, review the experience gained during the 1963 census programmes and, on the basis of that information, consider ways and means of overcoming present difficulties and discuss programmes of annual and more frequent inquiries that would be more in line with the present situation in the Latin American countries and with practical possibilities.

Other subjects discussed included: the objectives of the integrated system of industrial statistics and measures designed to establish or strengthen that system; the bases for future national programmes in industrial statistics; possible uses of indexes of industrial production, the methodology used in calculating them and the practical problems involved; the use, adaptation and improvement of the standard list of products; and the concepts; definitions and methodology of the items of data included in the industry section of the Inter-American Programme of Basic Statistics (PIEB).

The present report is divided into two parts. Part I describes the organization of work and attendance at the Seminar and includes the agenda adopted. Part II summarizes the discussions of the various items and the conclusions reached by the participants.

/Part I

Part I

ORGANIZATION OF THE SEMINAR

A. ATTENDANCE AND ORGANIZATION OF WORK

Opening and closure of the Seminar

1. The opening meeting of the Latin American Seminar on Industrial Statistics was held in the conference room of the Centro Internacional de Estudios Superiores de Periodismo para América Latina (CIESPAL) in Quito, on Wednesday, 7 December 1966. The meeting was addressed by Mr. César Molestina, on behalf of the Economic Commission for Latin America (ECLA). Mr. Otto Lukács, on behalf of the Statistical Office of the United Nations, Mr. Efraín Murcia Camacho, on behalf of the Inter-American Statistical Institute (IASI), and Mr. Raúl Páez, Technical Director of the National Planning Board of Ecuador, who welcomed the participants on behalf of the host country.

2. The closing meeting was held on 16 December 1966. The meeting was addressed by Mr. Juan Caballero (Panama), on behalf of the participants, and by Mr. Galo Pico Mantilla, the Ecuadorian Minister of Industries and Trade, who expressed his appreciation of the work accomplished at the Seminar.

Attendance

3. The Seminar was attended by thirty-nine experts from the following countries: Argentina, Bolivia, Brazil, British Honduras (Belize), Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Mexico, the Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, the United States of America, Uruguay and Venezuela.[1/]

4. Also present were ten observers from public institutions in Ecuador, the International Labour Organisation, the Permanent Secretariat of the General Treaty on Central American Economic Integration and the Regional Office for the Central American Programme of the United States Agency for International Development.

1/ A complete list of the participants appears in annex I.

/Election of

Election of officers

5. At the preparatory meeting held on 7 December 1966 the following officers were elected:

Chairman:	Mr. Luis E. Coronel (Ecuador)
First Vice-Chairman	Mr. Maxwell R. Conklin (United States)
Second Vice-Chairman	Mr. Javier Bonilla García (Mexico)
Rapporteurs:	Messrs. Francisco Rainone (Argentina), Rudolf Wuensche (Brazil), Rubén Peña Hen (Chile) Cándido A. Bosch (Cuba) Bertram O. Bowman (Guyana) José Trinidad Fiallos (Honduras) and Juan Caballero (Panama).

Secretariat

6. Mr. César Molestina, Deputy Director of the Statistical Division of the Economic Commission for Latin America acted as Director of the Seminar. The Co-Directors were Mr. Otto Lukács of the Statistical Office of the United Nations and Mr. Efraín Murcia Camacho, Chief of the Technical Operations Division of the Inter-American Statistical Institute.[2/]

2/ A complete list of the secretariat appears in annex I.

B. AGENDA

7. The following agenda was adopted by the Seminar at the preparatory meeting:

1. Industrial censuses: development of the 1963 census programmes; factors affecting their implementation.
2. Current industrial statistics: annual inquiries; monthly or quarterly inquiries; characteristics, items of data to be gathered and tabulated.
3. Methodological aspects of the Inter-American Programme of Basic Statistics (PIEB): concepts, definitions and methodology of the items of data included in the industry section of PIEB.
4. Indexes of industrial production: principal applications, methodological aspects and practical problems; the situation in Latin America.
5. Standard list of products: minimum list of manufactured products, list of mining products; uses, adaptations and improvements.
6. Construction statistics: purposes, contents and methods; programme for the Latin American countries.
7. Integrated system of industrial statistics: possibilities, objectives, methodological aspects, and future activities in the field of industrial statistics; present situation programme objectives; co-ordination aspects, points to be considered.

/Part II

Part II

SUMMARY OF DISCUSSIONS AND CONCLUSIONS

A. INDUSTRIAL CENSUSES

8. The Seminar discussed the implementation of the 1963 national industrial census programmes on the basis of the document Experience of the Latin American countries in carrying out the 1963 programme of industrial census (ST/ECLA/Conf.24/L.2), which, in the light of the latest information available to the secretariat at the time of its preparation, described the experience gained in carrying out the national census programmes, pointed to a number of factors affecting their implementation and drew a number of conclusions therefrom.

9. In the period 1960-1966, sixteen Latin American countries carried out, or planned, industrial censuses or basic inquiries. Fourteen of them included mining in the scope of their censuses, eleven included construction and ten the production and distribution of electricity.

10. Additional information was supplied by the participants on the stages in their national census programmes completed subsequent to the preparation of the working paper. The Seminar was particularly pleased to be informed by the participants from Panama, Paraguay and Peru that the final results of their respective manufacturing censuses had been published. It also welcomed the progress achieved during the last few months in the industrial censuses of Ecuador, Guatemala, Mexico, Nicaragua and Uruguay, which had still been at the planning or preliminary stage when the working paper was prepared.

11. During its discussion of the general aspects of census organization, the Seminar compared the experiences of the different countries and participants stressed the need for national statistical offices to have sufficient autonomy within the public administration and adequate financial support to organize and carry out their programmes without interferences which, in the main, stemmed from an unawareness of the importance of their work.

/12. As

12. As regards the organization of the censuses themselves, the Seminar considered the advantages and disadvantages of both the centralized and decentralized systems in carrying out the various stages of the censuses. The participants agreed that the application of either system would depend on the conditions obtaining in each country, but it was pointed out that, at least during the enumeration stage, in some countries the decentralized system was not very successful because of the difficulties encountered by the central offices in the work of supervision.

13. The discussion of problems relating to census budgets revealed that, in some cases, not only had the funds allocated for carrying out census programmes been both inadequate and unduly delayed, but that, in addition, the offices responsible for taking the censuses did not always have sufficient authority to administer the funds with the flexibility and speed required by a census programme.

14. During the discussion of that topic, a number of experts expressed the view that the possibility should be explored of international credit agencies creating a special fund to assist those countries requesting financial assistance for carrying out their census programmes. In that connexion, the Seminar was informed of a number of initiatives along those lines taken by international agencies.

15. In its discussion of the directory of statistical units, the Seminar expressed the unanimous view that a complete and up-to-date directory was essential to any industrial census or inquiry. Several participants indicated, however, that in their countries there were a number of problems, inter alia, the fact that there were no statutory provisions for keeping the industrial directory up to date, which meant that much time and money were wasted in carrying out their census programmes.

16. Since it was practically impossible to keep a directory of all industrial units up to date, it was agreed that efforts should be concentrated on maintaining a directory of large units, by which was to be understood those units above a minimum size established in accordance with the actual and potential situation in each country.

/17. The

17. The discussion of census questionnaires revealed that the number of questionnaires used varied greatly from country to country. Some used only one, others prepared different questionnaires for large and small units, and, finally, others used separate or supplementary questionnaires for each industry.

18. It was pointed out that there were among others, three main methods for collecting data on raw material consumed or received and on goods produced or shipped: (a) some countries prepared separate sheets for each industrial branch with pre-coded lists of the raw materials and products relevant to that branch; (b) others prepared a general questionnaire containing the names and code numbers of the most important raw materials and products for industry as a whole; and (c) others supplied each respondent with a coded list of raw materials and products together with the census questionnaire. It was agreed that the method of leaving blanks to be filled in by the respondents with the names of the raw materials and main products was inadequate, since it made it difficult to obtain figures that could be added together to give a total for the whole country.

19. The characteristics of the industrial censuses and the items of data requested by the various countries were described in the annexes to document ST/ECLA/Conf.24/L.2. During the discussion of the items of data included in the censuses, a number of participants referred to the problems encountered in respect of certain items, either because of the difficulty of obtaining information or because the information obtained was unreliable. The participants agreed that the breakdown of persons employed into administrative and technical personnel, the value of fixed assets on a given data, capacity of productive machinery other than electric and the financial aspects of statistical units were all items of data in respect of which it was difficult to obtain useful information in the censuses, and consequently the other methods of gathering reliable information on those items such as special inquiries, should be considered.

20. Some experts described the difficulties they had encountered in gathering data, particularly for small units, on items such as the capacity of power equipment, man-hours worked, and fuels and raw materials consumed, broken down by origin, domestic or imported.

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21. The Seminar agreed that the procedure used by one country of sending to each large reporting unit, some time before the actual date of the census, a leaflet describing the items of data to be requested in the census should be adopted as a means of facilitating the task of the respondents. In that connexion, it was emphasized that promotion campaigns should be undertaken and all possible means should be used of providing information on the purposes of the census and the contents of the questionnaire. Similar stress was laid on the importance of seeking the assistance of manufacturers' associations and boards in preparing the census questions.

22. There was general agreement that the problems encountered in the enumeration stage were closely linked with the quality of the personnel involved. Experience had shown that it was very difficult to train temporary enumerators properly, and it was felt that the offices responsible for the census programme should have an efficient team of permanent staff for training and supervising the enumerators.

23. The participants discussed the various methods of enumeration used, such as self-enumeration, the filling in of the questionnaires by the enumerators, and any combination of these methods. In general, self-enumeration, whether questionnaires were delivered and collected by enumerators or through the mail, had worked well for large units which kept accounts and records, but enumerators had been needed to fill in the questionnaires for small or non-accounting units.

24. In the discussion of the editing of census questionnaires, some participants pointed out that one of the greatest problems was the lack of specialists in the offices responsible for the editing process, since editing was not a job that could not be done successfully by unqualified staff.

25. The view was expressed that a preliminary editing should be undertaken when the census questionnaires were collected; otherwise, further visits to reporting units were often necessary to correct errors or omissions, resulting in further delay and additional expense during the editing stage.

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26. The participants were interested to learn that in one country the coding and editing of census questionnaires relating to activities involving a large number of establishments, such as the manufacture of bakery products, the repair of footwear and vehicles, etc., would be carried out on a sample basis, thus saving a great deal of time and resources.

27. In order to facilitate the editing of questionnaires, the Seminar considered that the relationship between the input of raw materials and output of products should be worked out in respect of certain activities, such as, for example, the different branches of the food industry or the wearing apparel and footwear industry.

28. There was general agreement on the need for studies evaluating the coverage and quality of the data gathered in the census. It suggested that sub-samples designed to measure the degree of under-enumeration and reliability of the data should be carried out as part of the census programmes.

29. The use of electronic computers for the tabulation of census results in some cases caused problems and delays, mainly because the offices concerned lacked the necessary experience. However, several participants stated that those difficulties had already been overcome and that, as a result of the experience gained, tabulation by means of electronic computers would greatly facilitate the future work of offices possessing such equipment.

30. Although three countries had been added to the list of those which had published the final results of their censuses, it was emphasized that in some countries the publication of results had been considerably delayed as a result of hold-ups during the stages of enumeration, editing and data tabulation, as well as of the difficulties encountered in the actual process of publication.

31. As regards the frequency of industrial censuses, it was recognized that, although there was an inter-American recommendation that economic censuses should be taken in years ending in 3 and 8, the experience of the 1963 census programme seemed to show that it would not be possible

for many of the countries to comply with that recommendation in 1968, and that, therefore, efforts in the next few years should be concentrated on current inquiries. That did not, however, rule out the possibility that countries could carry out an inquiry of much wider scope in 1968.

32. Although in many cases it was not possible to adopt solutions applicable to all the countries to solve the various problems encountered during the taking of the 1963 industrial censuses, the Seminar agreed that particular attention should be paid to the following points:

(a) The fact that industrial censuses constitute the benchmarks of the integrated system and are the basis of the annual and more frequent inquiries should be taken into account in both the planning and execution of the censuses;

(b) The taking of mining, manufacturing, construction and electricity censuses simultaneously, particularly, if trade and services censuses are also taken at the same time, raises problems that are difficult to overcome. For some countries it would be preferable and more advantageous to take the censuses simultaneously in order to avoid omissions and duplications and to save resources. However, despite the loss of comparability, it might in some cases be necessary to complete the enumeration in successive stages (e.g. in two stages if trade and services are treated separately, and in three if construction, trade and services are treated separately), although it might be feasible and advantageous to take the registration at the same time, as this would lessen the chances of omissions and duplications and also would be more economical;

(c) To ensure proper organization and co-ordination of the activities covered by the censuses and current inquiries, all countries should have a permanent office, within the national statistical office, responsible for the planning, execution, data processing and evaluation of the results of the censuses and annual and more frequent inquiries;

(d) To carry out the programme of industrial censuses properly, national statistical offices should have funds that are both adequate and regularly provided, for which purpose:

(i) Census plans should be prepared well in advance and should contain an indication of the costs of each stage,

(ii) Governments should provide the necessary funds for carrying out the proposed plans, and

(iii) The international and governmental agencies concerned should be asked to consider the possibility of offering financial assistance for carrying out industrial censuses to those countries in need of it;

(e) With regard to personnel, it is essential that offices responsible for industrial censuses and inquiries should have a permanent team of administrative and technical officials capable of supervising the work of enumerators, editors and coders;

(f) It is of vital importance to have an up-to-date directory, which can serve as a framework for carrying out industrial censuses and inquiries. This directory should contain information on the location, activity, number of persons engaged and value of production, at least of the large establishments;

(g) With regard to the preparation of questionnaires, the following questionnaires should be available in separate form:

(i) for large establishments either a general questionnaire and lists indicating the name, corresponding code number and unit of quantity of the principal raw materials consumed or bought and principal goods produced or shipped or a separate questionnaire for individual industries or groups of related industries precoded as to materials and goods. In the less experienced countries, it might be preferable to begin the preparation of these lists by the principal groups (three digits of the ISIC) and subsequently complete it by the most important remaining groups and sub-groups,

(ii) a less comprehensive questionnaire for small establishments,

(iii) a supplementary questionnaire for administrative offices and, where justified, for auxiliary units.

All this material should be tested in the field to determine its suitability before being used in the census;

/(h) The

(h) The size limitation based on the number of persons engaged, used to distinguish between large and small establishments, should be determined by each country to suit its own convenience. For the purposes of international comparability, it is suggested that the lower limit of any of the following range groups should be adopted as the cut-off point: 1-4, 5-9, 10-19, 20-49, 50-99;

(i) As regards the enumeration of establishments, the possibility should be considered of delivery and collection by enumerators for full enumeration of large establishments, and direct enumeration of a sample of small establishments;

(j) Certain items of data, such as those relating to qualifications of the labour force employed in the industry, technical operational aspects, description of machinery and equipment, value of fixed assets of a given date, the enterprise's plans, credit conditions and financial aspects, should be the subject of special inquiries and should not be included in the census or current inquiries;

(k) With a view to facilitating enumeration, it is recommended that large establishments should be sent beforehand a copy of the census questionnaire or an information booklet containing the items of data to be requested in the census;

(l) Studies evaluating the coverage and quality of the data obtained in the censuses, based on special inquiries to measure under-enumeration and the degree of reliability, should be included as an integral part of the census programmes;

(m) It is suggested that each country should publish a report describing organizational, methodological and cost aspects, etc., and pointing both to the problems encountered during the different stages of the census and to ways of overcoming them;

(n) It is suggested that, when Governments begin to prepare a census programme, they should seek the advice of the international agencies concerned and that these agencies should make provision in their plans and budgets for the technical assistance needs of the Latin American countries.

B. CURRENT INDUSTRIAL STATISTICS

33. The Seminar had before it for discussion the document entitled "Annual and more frequent industrial statistics in Latin America" (ST/ECLA/Conf.24/L.1). As background documents, the relevant papers were International Recommendations in Basic Industrial Statistics (Statistical Papers, Series M, N° 17, Rev.1) and Report of the VIII Session of the Committee on Improvement of National Statistics (COINS), Panama, 2-14 September 1964. (Doc. 5031a.)

34. The purpose of the discussion was two-fold. The first was the improvement and extension of current industrial statistics and their establishment where not in existence. The second was to provide information to help in establishing international recommendations for annual and more frequent industrial statistics, as requested by the Statistical Commission at its thirteenth session.

35. The Statistical Commission had emphasized the need, in both the industrialized countries and those countries in the process of industrializing, for annual and more frequent data. It had pointed out that the success of the 1963 World Programme furnished an excellent basis for developing more frequent inquiries. The importance of annual inquiries had been stressed from many points of view, not least of which was the possibility of maintaining a corps of highly trained personnel for such inquiries.

36. Almost all the countries of Latin America held annual inquiries and half of them conducted more frequent inquiries. The characteristics, items of data gathered and methods of inquiry of the various countries were shown in annex III of document ST/ECLA/Conf.24/L.1. During the discussion, countries that had not previously furnished information did so and countries already included in annex III provided additional information. It appeared that for a number of reasons, such as inadequacy of the directory, inadequate response and insufficient coverage, it was not possible in all cases to take full advantage of the results or even to publish them. Additional difficulties arose for some countries as a result of the lack of co-ordination between the several agencies and institutions responsible for the different industrial inquiries.

/37. Because

37. Because of the above-mentioned factors, there appeared to be wide variation from one country to another as regards the availability and publication of data and the Seminar felt it timely to discuss the problems of the annual and more frequent inquiries covering the following aspects, objectives, scope and coverage of the inquiries, frequency, the inquiry period, the statistical unit, the classification schemes used, the comparability of data from the different inquiries, the items of data to be gathered and tabulated and methods of enumeration in the annual and more frequent inquiries.

38. The Seminar agreed that annual and more frequent inquiries served a wide range of purposes. Among the most important was the use of current industrial statistics for development planning, decision-making and general economic analysis. It was pointed out that, while basic industrial statistics were used for long-term decisions, current industrial statistics were the appropriate tool to help in short-term decisions on many important subjects, such as production scheduling, markets, inventory control, labour supply, etc. Basic statistics gave an insight into the structure of industry, while current statistics reflected dynamic changes. Short-term decisions also helped in the implementation of the development plan. Furthermore, it was recognized that the annual statistics should furnish some of the data required for the compilation of the national accounts aggregates. The new recommendations should, as far as possible, take into account the revised versions of the System of National Accounts. One of the most important purposes of current statistics was the compilation of indexes of production. In addition to the objectives mentioned above, annual and more frequent inquiries would help to establish and maintain trained and experienced staff for industrial statistics.

39. Discussing the scope of current industrial statistics, the Seminar was informed of the revision of the International Standard Industrial Classification (ISIC) now being undertaken. The revision has been requested by the Statistical Commission for several reasons. The revision of the System of National Accounts, the development of new industries, input-output work, the development of industrial and other statistics all

called for revision of the ISIC. It was agreed, in the course of the discussion, that the scope of current industrial statistics should aim, in principle, at covering mining, manufacturing and the electricity and gas industries. However, it was emphasized that, for countries still at the stage of developing their industrial statistics system with limited resources of trained personnel and finance, it might well be more advisable that only the most important industries should be covered, extending the coverage as resources and experience increased. An additional difficulty was presented for some countries in connexion with those industries where the products were very heterogeneous and where it would be necessary to include a greater number of establishments than could be economically covered.

40. With regard to the coverage, several problems were mentioned by members of the Seminar. It was clearly recognized that an up-to-date register was a basic necessity for annual or more frequent industrial inquiries. However, the establishment and upkeep of the directory was very difficult for several reasons. In some countries there was no legislation compelling establishments to register; in other countries the law existed but could not be enforced. An additional problem was that for some countries the responsibility for establishing and maintaining the directory lay with different authorities, whose needs did not always coincide with those of statistics. This latter problem could be solved only by very close co-ordination between the statistical office and the other agencies involved. While it was not always feasible to maintain a directory of large and small establishments, a directory of large establishments was within the reach of most countries. It was recognized that no one method of establishing and maintaining a directory was adequate. All available sources should be used for establishing the directory and keeping it up to date, such as data from trade unions, provincial statistical offices, social security systems, chambers of commerce, national associations of industries, telephone directories, lists of municipal mayoralities and other records maintained to comply with industrial development legislation, etc. Those sources could also be

used for the purposes of cross-checking. It was realized during the discussion that it was not possible to give definite recommendations on coverage, because the feasibility of enumeration differed not only from one country to another, but also from one industry to another within each country. Most of the countries used a definite cut-off point for their annual inquiry. It was mentioned that it was most important in deciding on coverage to include initially those units from which it was possible and feasible to obtain reliable data.

41. Most Latin American countries used the establishment as the statistical unit for their annual and more frequent inquiries and some used the enterprise. It was agreed that usually it was preferable and advantageous to use the same statistical unit in all inquiries. It was also pointed out that where the monthly or quarterly inquiries obtained data on certain commodities only, that is, where the statistical unit was not classified in any way, those statistical units from which it was easiest and most economical to obtain the data could be used.

42. While it was realized that it was necessary to have industrial activity and commodity classification schemes available for classification of the statistical unit and of commodities, some countries faced difficulties in establishing such schemes.

43. While it was recognized that in some cases it was difficult to ensure comparability between different inquiries (basic, annual, and more frequent) the necessity was stressed of ensuring comparability in time in the same type of inquiry. Several difficulties were mentioned in the ensuring of comparability in annual and more frequent statistics. Among these were the problems encountered by some countries in ensuring the same coverage from period to period, because of deficiencies in the registers. It was mentioned also that many units on the margin of the cut-off point in coverage escaped from filling in the questionnaires by understating their number engaged. It also happened that the criteria for the coverage were changed by the authorities without ensuring comparability. It was pointed out that to ensure comparability it was essential that the statistical unit should be classified to the same

branch of industry in the various inquiries. That was achieved in some countries by the use of identification or code numbers. Mention was also made of other factors which prevented comparability, such as changes in classification, standards or methods.

44. The Seminar felt it necessary to discuss separately items to be gathered annually and those to be gathered in the more frequent than annual inquiries. With regard to annual inquiries, it was recognized that the papers cited in paragraph 33 already contained recommendations on the items of data to be gathered. However, at the time those recommendations were made, the experience of the Latin American countries in industrial statistics was limited. Now that they were acquiring considerable experience in this field, it was thought timely to review the existing recommendations, with a view to establishing what was feasible for introduction in the near future. It was recognized that the recommendations required for countries still in the process of developing their system of annual industrial statistics were not identical with those for countries which had already developed their system. It was generally thought that the annual industrial inquiry should be limited to items which were essential and which could be reliably answered by respondents. It was acknowledged that a questionnaire designed with a minimal programme should be left unchanged over a period of time, the major consideration being the improvement of the data collected. This would also serve to ensure comparability in time.

45. The Seminar discussed the items of data to be gathered which were set out in annex I of document ST/ECLA/Conf.24/L.1. Although the proposed items were, on the whole, accepted by the Seminar, it was felt that several of the items would be difficult to enumerate in some countries, while posing no problem in others. Taking into account that the proposed items of data to be gathered were not numerous it was felt that this problem might be solved by introducing priorities 1 and 2 into the table, with priority 2 being applied to those items, which presented difficulties for some countries. (See annex III of this report.) It was mentioned that in the case of certain items, such as operatives, there was no

need to enumerate them in the annual inquiry if they were enumerated in the monthly or quarterly inquiries, and if the coverage of the different inquiries was the same. If the coverage of the more frequent inquiry was more restricted than that of the annual, however, it was recommended that the items should be enumerated again in the annual inquiry. This was necessary in order to calculate derived indicators and also for purposes of economic analysis.

46. In the field of employment, the following difficulties were encountered. In several countries, establishments kept no record of man-hours worked, and in some cases no record of shifts or overtime worked. Consequently, it was not always possible to enumerate man-hours worked during the year. However, every effort should be made to obtain information on man-hours, at least for large establishments, for the purpose of estimating productivity trends. It was felt that it would be easier to enumerate this item in relation to a month rather than to a year. Several countries mentioned that, in enumerating unpaid family workers, it was difficult to be consistent, since such workers frequently worked only part of the period. It was suggested that the enumeration should include those who worked at least one-third of the normal working period. Another problem reported by several of the participants was the difficulty of separating operatives from other employees within the establishments. The general feeling of the Seminar was that, in view of the importance of this item of data, it should be retained for the large establishments even if for some establishments it was necessary to make estimates. One country considered that it was necessary to enumerate employees other than operatives during several specific periods of the year, since the proportion of operatives to other employees varied from industry to industry. It was felt, however, that, since the number of other employees tended to vary less than the number of operatives, it would be sufficient to enumerate them during a single period of the year.

/47. It

47. It was reported that it was not always possible to include in the questionnaires item F of annex I, of document ST/ECLA/Conf.24/L.1, "Total cost of new fixed assets acquired or produced during the inquiry year", and where the total cost of fixed assets could be enumerated, there were difficulties in obtaining the proposed breakdown. The Seminar agreed, however, that, since the data included under item F were very important for the calculation of the national accounts, every effort should be made to collect them.

48. It was mentioned during the discussion that, for some countries, it was difficult to gather data on item I of the same annex, "Value of stocks at the beginning and end of the inquiry year", especially in respect of work in process. The difficulties were connected with the accounting system of the establishments and, without inventories, it was not possible to obtain reliable data on those items. It was pointed out that data on stocks of raw materials, etc., were needed to calculate the cost of goods consumed and to correct the figures on the cost of goods received. Similarly, it was necessary to take into account the value of stocks of finished goods produced when compiling the value of goods produced using data on the value of goods shipped (or sold). In those instances where it was possible to enumerate directly the cost of goods consumed and value of goods produced, figures on the value of stocks - if not needed for other analytical purposes (e.g. market analysis and capital formation) - might be omitted from the questionnaire. While the value of stocks of work in process was needed for the calculation of gross output, it was recognized that, in Latin American countries generally, the heavy machine-building industry was not intensively developed, and that it might therefore be assumed that the change (the difference between stocks of work in process at the beginning and end of the inquiry year) would not be significant. Consequently, that item of data might be omitted. Furthermore, it was recognized that, although the calculation of gross value of production and cost of goods consumed was necessary to derive value added (which was required for the calculation of the national accounts), countries which found it impossible to obtain reliable data on stocks should be satisfied with figures on the value of goods shipped

/(or sold)

(or sold) and cost of goods received (or purchased) for the calculation of value added. In using these approximations, the assumption was that the change in stocks would be negligible.

49. The Seminar was informed of difficulties that had been encountered in one country in collecting data on electricity consumed. It was agreed, however, that since such difficulties could be overcome in almost every country this item should be retained in the recommendations.

50. In conclusion, a revised version of the table of items of data to be gathered in annual industrial inquiries was approved by the Seminar, and appears in annex III of this report.

51. In discussing the items of data to be gathered in monthly or quarterly inquiries, it was again reported that difficulties had been encountered in enumerating the number of man-hours worked. However, in view of the importance of this item for estimating productivity trends, it was agreed that it should be given priority 1 for all Latin American countries, at least as regards large establishments. Difficulties were also reported in connexion with the enumeration of wages and salaries, and this item was not recommended for countries still developing their monthly or quarterly industrial statistics. (The revised table for items of data to be gathered in monthly or quarterly industrial inquiries appears in annex IV of this report.)

52. Two additional items were mentioned, in respect of which it might be interesting to gather data, even in developing countries, for industries of special importance to the country. These were the value of new and unfilled orders and the value of stocks. Although drawn to the attention of the Seminar, these items were not included in the recommendations, because of the difficulties of enumeration.

C. INTER-AMERICAN PROGRAMME OF BASIC STATISTICS

53. For its discussion of this item the Seminar had before it working paper ST/ECLA/Conf.24/L.3, and as a background document the Report of the VIII Session of the Committee on the Improvement of National Statistics (COINS), Supplement VIII.

54. The purpose of the working paper was to submit to the Seminar the tabulations of section VIII (Industry) of the Inter-American Programme of Basic Statistics (PIEB), and the existing definitions recommended by international organizations for the concepts included in those tabulations, in order to obtain the Seminar's views on: (a) the necessity and desirability of introducing into the tabulations the changes and modifications suggested in the working paper; and (b) the extent to which the definitions were applicable, in the light of the experience gained by the countries in carrying out their most recent industrial censuses or inquiries.

55. During the discussion of the desirability of omitting from the concept of "persons engaged" the distinction between "technical" and "administrative" employees, some participants expressed the view that separate data should be gathered for each of those sub-divisions, since such data were useful for determining the level of training of personnel and for undertaking special studies designed to intensify training programmes, and for industrial manpower studies. Other participants agreed with the suggestion put forward in the working paper that, in view of the absence of standards for the classification of "technical" and "administrative" employees, it would be very difficult to obtain meaningful data showing a distinction between them. In addition, the point was made that, even though data on those sub-divisions could not be gathered in industrial inquiries, the population census or a special inquiry could be used for that purpose. In short, the Seminar accepted the suggestions contained in the working paper as to the use of such data, but added that such data could be gathered by countries preferring to do so in a population survey or special inquiry.

56. With regard to the breakdown in manufacturing of "wages paid to workers" into "wages paid to men" and "wages paid to women", the Seminar felt that it was neither possible nor useful to make such a distinction, since national

labour laws did not differentiate between payments, i.e. the allocation of wages was based on the type of activity in which the worker was engaged and not on sex. Nor was it customary for the sex of the worker to be indicated on payrolls. For those reasons, the Seminar rejected the suggestion put forward in the working paper.

57. The Seminar agreed with the suggestion that information on prime movers sub-divided by type (steam engines and turbines, internal combustion engines, and water wheels and turbines) should be obtained for large establishments only, since only the latter were likely to be in a position to provide sufficiently detailed information.

58. In view of the fact that some large enterprises might operate more than one generating plant, the Seminar approved the suggestion that, with regard to tabulation 3 (for the field of electric energy) two columns should be added, one showing the total number of generating plants and the other showing total capacity (kW).

59. With regard to data on fixed assets, some participants expressed the view that, despite the importance of data on the value of acquisitions of fixed assets broken down as indicated in the corresponding tabulations, experience in the latest censuses showed that some large establishments were able to furnish information on each category, but that most medium-sized or small establishments found it difficult to do so. Consequently, the Seminar approved the suggestion that a study should be made to determine how this type of data could be gathered in the detail desired.

60. The suggestion that, in mining, the value of stocks of minerals, materials, fuels and other supplies should be obtained at the enterprise rather than at the establishment level, was considered inappropriate by a number of participants.

61. In considering the tabulations corresponding to operational expenditures in the mining, manufacturing, construction and electricity industries, several participants felt that the "other expenditures" category in those tabulations should be defined, since it might not always be given a standard interpretation and might at times be interpreted to include expenditures not directly connected with production. For that reason, the Seminar agreed that a study should be made of (a) the extent to which data on other

operational expenditures were included in accounting systems; (b) the possibility of obtaining this information from the statistical units; and (c) its uses for analytical purposes.

62. In discussing the tabulations containing data on "general expenditures and depreciation", several participants stressed the importance of such information and, at the same time, indicated that it would not be possible to obtain it at the establishment level. Others added that it could be obtained through special inquiries at the enterprise level. The Seminar approved the two suggestions concerning general expenditures contained in the working paper. It was agreed that the item on depreciation, needed further study and that users should be consulted on what priority it should be given.

63. With regard to tabulation 13, "Income", relating to the electricity industry, the Seminar, after discussing the usefulness of data on the value of income classified in accordance with the categories contained in the tabulation, expressed its agreement with the suggestion that enterprises engaged in the production and distribution of electric energy should be consulted as to whether or not they could classify data as proposed in tabulation 13 and, in addition, whether or not it was advisable to maintain the classification as it stood or to limit the categories to the following: (a) public lighting; (b) domestic consumption; (c) sold to distributors; and (d) to others.

64. During its discussion of the wording of the definitions, the Seminar considered each of the definitions in turn and commented on the experience of the countries with regard to their applicability. Although, in general, the Seminar approved the wording of the definitions, some participants, with a view to clarifying the scope of a number of concepts, raised questions of a conceptual nature, such as: what time-limit should be established for the "short-term leave" referred to in the "persons engaged" concept; what criterion should be adopted for classifying a person in the appropriate employment category; whether the concept "capacity of power equipment" included the capacity of reserve motors; etc.

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65. Nevertheless, the explanations did not give rise to any substantive suggestions by the Seminar for additions to or modifications of the definitions. In conclusion, the Seminar indicated that, although the definitions in question have been recommended by international agencies several years ago, they had been still considered valid and their application presented no difficulties.

D. INDEX NUMBERS OF INDUSTRIAL PRODUCTION

66. In discussing this item the Seminar had before it as a working paper Index numbers of industrial production in the Latin American countries (ST/ECLA/Conf.24/L.6). As background document the Seminar had the United Nations paper, Index Numbers of Industrial Production (Studies in Methods, Series F, N°1). As was pointed out in the working paper only about half of the Latin American countries compiled indexes of industrial production and, of these, only two countries compiled a total index of industrial production covering mining, manufacturing, construction and the production and distribution of electricity and gas. Monthly indexes were prepared by three countries and quarterly indexes by two. It was, therefore, an important subject for discussion.

67. Members of the Seminar furnished additional information on the availability, scope, coverage and other aspects of their indexes. Some participants reported frankly that indexes of industrial production in their countries were both inferior in quality and unduly delayed and that, consequently, users were faced with many difficulties. Others described short-term plans in their countries for extending the coverage, refining methods and calculating indexes more frequently. It was generally agreed that nationally and internationally there was a very great demand for index numbers of industrial production, which were among the most important short-term indicators. The Seminar was informed that the Dominican Republic and Panama had completed the compilation of new indexes, Peru had revised its index and Colombia was preparing a new annual index of manufacturing that would be available early in 1967. Argentina, Brazil, Ecuador, Guatemala, and Paraguay planned to compile production indexes based on the results of recent industrial censuses.

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68. The Seminar agreed with the main uses of index numbers of industrial production outlined in document ST/ECLA/Conf.24/L.6:

(a) estimates of evolution of domestic product at constant prices;

(b) industrial programming requirements;

(c) technical progress: degree of assimilation and diffusion;

(d) productivity and wage policy.

69. The representatives of the international organizations stressed the importance of the compilation of index numbers of industrial production by the countries of Latin America so that industrial production indexes could be compiled at the regional level on an annual and quarterly basis. Data at the national and regional levels were urgently needed by international organizations in order to establish a solid basis for determining the form of their assistance to the industrialization process in the developing countries.

70. The Seminar agreed that for national and international purposes it was most important that in every country the indexes should initially cover at least the key industries. At a later stage it would be desirable to cover mining, manufacturing, electricity and gas. It was mentioned that while the weights derived from the censuses might cover a large proportion of industry, it was not always possible, for different reasons, to ensure appropriate coverage in all industrial groups for the series of indicators. Consequently, in some countries only part of industrial production was covered. Satisfactory scope and coverage had not been achieved largely because of deficiencies in the annual and more frequent inquiries, the absence of an up-to-date directory and the lack of co-ordination between different agencies. In some countries the coverage of the series was not known, and in a number of countries new products and new industries were not adequately covered.

71. With regard to methodology, the general feeling of the Seminar was that the major goal should be to ensure that sufficient basic data and information should be available to calculate the index on the basis of a Laspeyres-type formula. A weighting system on value added might be preferable for most of the countries. It was agreed, however, that in most cases the difficulty of calculating the index lay not in the methodology but in the lack of satisfactory data.

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72. The weight base used by the countries was usually their census year, and in most cases was prior to 1958. Taking into account the fact that in the developing countries industries were established and new products produced at a rapid rate, it was not advisable to keep the base year unchanged for more than ten years. It was agreed that the results of the 1963 censuses should be used to establish another and more suitable weight base and that the weight base should refer to a period of at least one year, as was the practice in every Latin American country.

73. The Seminar discussed the use of the different indicators for preparing the elementary series. The most widely used was the volume of production of selected commodities. In that connexion, it was pointed out that a complete and clear definition of every commodity used for the calculation of the indexes was absolutely essential. It was mentioned that the use of value of production or value of sales necessitated the compilation of adequate price indexes. One participant informed the Seminar that his country derived data for the calculation of price indexes from the same establishments as those from which data were gathered for the value of production series. The series of man-hours worked had to be used with care because of changes in productivity, but in some industries, such as those engaged in repair work, it might be that no other data were available, and where they were used allowance should be made for changes in productivity. In industries using mainly one kind of material, the consumption of this material might be an appropriate indicator. One participant reported that in his country imports of raw materials and exports of products were used as indicators. Document ST/ECLA/Conf.24/L.6 described the type of series used in the countries for which information was available. It was agreed that the remaining countries should also furnish this information and send it to the ECLA secretariat.

74. For the calculation of the indexes at the group and major group levels, all the countries used value added or census value added for weighting coefficients, except one which used value of production. For weighting the elementary series within the group indexes most countries used the value of production, or prices. However, one country calculated the most detailed groups without weighting.

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75. The Seminar adopted the following conclusions:

(a) The countries that do not have an industrial production index should take steps forthwith to calculate the necessary series;

(b) The countries that prepare a manufacturing production index should, as far as possible, enlarge its fields of application to include the divisions of Mining and Electricity. It would also be desirable for them to plan for the addition of Construction, despite the difficulties involved;

(c) Countries that have annual indexes only should consider the possibility of preparing them on a more frequent basis, say, monthly or at least quarterly;

(d) The data included in the index should be classified in accordance with the International Standard Industrial Classification (ISIC), and the indexes should be worked out at the level of ISIC (2-digit) major groups;

(e) The base year of the indexes should be changed to 1963 or a year near to it;

(f) The elementary series of indicators should be revised so that those that are truly representative of industrial activity in the country can be singled out;

(g) Simultaneously with the implementation of point (d), the weighting coefficients should be decided upon for the major groups, groups and sub-groups in proportion to their contribution to value added in a recent year;

(h) The Latin American countries should prepare studies on their industrial production indexes to cover such aspects as:

(i) field of application;

(ii) coverage;

(iii) elementary series of indicators;

(iv) methodology, so that they can make an appraisal of the existing situation and give users a reasonable idea of the indexes' scope and limitations;

(i) The offices that calculate industrial production indexes should review the stages of preparation and take steps to obtain the monthly indexes between three and six weeks after the reference month, and the annual indexes between three and six months after the reference year.

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(j) The Statistical Office of the United Nations should consider, in co-operation with the other international organizations concerned and on the basis of consultations with the countries themselves, revising and up-dating the document entitled Index Numbers of Industrial Production (Studies in Methods, Series F, N°1) and preparing a manual on the application of its recommendations.

E. MINIMUM LISTS OF MANUFACTURED AND MINING PRODUCTS

76. For its discussion of the item the Seminar had before it Minimum standard list of manufactured products (ST/ECLA/Conf.24/L.5) and List of mining products (ST/ECLA/Conf.24/L.9) the first being a list of about 500 manufactured products classified within ISIC groups 201-399, indicating the unit of measurements, the second a list of the chief mining products produced in the region, showing the main mineral ores from which each product was obtained.

77. The United Nations Statistical Commission, recognizing the need for international recommendations in that respect, had requested the preparation of a basic list of commodities for which industrial production data should be compiled, and had pointed to the advisability of preparing such a list through consultations in regional seminars or working groups.

78. In its discussion of the lists of products, the Seminar agreed that the lists constituted a valuable tool for the carrying out of industrial censuses or inquiries, and, in particular, for the preparation of production indexes. It was recognized, moreover, that the lists enabled production statistics to be compared with those of foreign trade, and could be used to establish commodity balances and to analyse import substitution.

79. The Seminar also considered that there was a great demand for internationally comparable production data compiled in accordance with a standard list of manufactured products, in order to meet the needs of the agencies responsible for promoting regional integration efforts.

80. It was pointed out that total production should be reported for each product, i.e. the quantities consumed by the unit in which they were produced and quantities transferred between units within the same enterprise,

as well as quantities shipped to other units or remaining in stocks. The concept covered production of the goods in question by all industries, not only by the industries for which they were the main product. In the case of goods produced by both industrial and non-industrial establishments (e.g. cheese, butter, etc.) the data should relate to production by industrial establishments. However, as far as possible, the published results should indicate the share of industrial production in the total. The items relating to machinery, apparatus and equipment in the lists were confined to complete units. In many cases, therefore, they were narrower in coverage than the corresponding items in the SITC, which normally included special parts and machine accessories. It was emphasized that for many of the commodities listed, data were already published annually or more frequently in the statistical bulletins and yearbooks of the United Nations and the specialized agencies.

81. Four participants indicated that the list of manufactured products prepared by the ECLA secretariat had been used as a basis for preparing national lists in their respective countries during the taking of the most recent industrial censuses. The experience gained showed that such lists satisfactorily fulfilled their purpose.

82. The Seminar was also informed that in Chile, in preparation for the taking of the industrial census, visits were being made to industrial establishments to discuss a provisional list of products. The list had been prepared on the basis of that drawn up by the ECLA secretariat, which, except for a few products that needed to be added - particularly building materials - had proved in practice to be a good point of departure.

83. It was recognized by the Seminar that the best way of ascertaining the suitability of the list of products was to analyse the results of the industrial censuses, in which it had been applied. In that connexion, the secretariat appealed to the participants for the results of their censuses, and requested that the lists submitted to the Seminar for its consideration should be studied by ad hoc committees in each country and that the results of those studies should be sent to the ECLA secretariat so that revised versions of the lists of manufactured and mining products could be prepared.

84. One of the most important aspects of the preparation of the national lists was the definition of the products. It was mentioned that, for that purpose, use could be made of the definitions contained in the Explanatory Notes to the Brussels Tariff Nomenclature (BTN), through the relationship between the industrial and international trade classifications (ISIC-SITC) contained in the United Nations document, Statistical Papers, Series M, N° 43.

85. The Seminar was informed that in Cuba quarterly and monthly production inquiries were carried out. Production data were requested on 752 products in the quarterly inquiries, and on 207 in the monthly. A preliminary consideration of the list contained in document ST/ECLA/Conf.24/L.5 seemed to indicate that it could be revised on the basis of the results of the quarterly inquiries, but a more detailed consideration could be carried out in the near future and the results sent to the ECLA secretariat.

86. In the course of the discussion, some participants stressed the need to revise the units of measurements assigned to certain products (such as railway sleepers, furniture, wood products, leather, petroleum products, machinery and vehicles) in order to make them more meaningful. It was agreed, in any case, that some of the units indicated were intended to ensure international comparability and should be considered as units in terms of which the data should be presented rather than as units for collecting information from the respondents. It was recognized that, where data could not be published in the units recommended, the corresponding conversion factors should be published together with the data. With regard to certain products (particularly machinery and vehicles) participants emphasized the need to obtain quantities by requesting two units, e.g. number and capacity, in order to obtain more meaningful data.//

87. During the consideration of the products included in the lists, several participants made comments with regard to adding products that were important for one country but had not been included, deleting products that were of little significance and extending or modifying the content of others, and their suggestions are presented in the form of a list in annex V of this report.

F. CONSTRUCTION STATISTICS

88. The Seminar had before it for discussion the working paper, "The construction statistics in Latin American countries" (ST/ECLA/Conf.24/L.7) and "Construction Statistics" (Studies in Methods, Series F, N° 13). The Statistical Commission at its thirteenth session had confirmed that construction statistics should be dealt with separately from other industrial statistics, inasmuch as the specific problems of the construction industry called for the establishment of separate recommendations for construction statistics. The purpose of the Seminar discussion was to analyse the problems facing the Latin American countries in developing their basic and current statistics in this very difficult field and, at the same time, to contribute to the establishment of world recommendations on basic and current construction statistics.

89. Statistics for the construction industry called for special treatment because of the specific problems in that field. Among others, the following difficulties were mentioned: (a) the extremely mobile character of construction; (b) the fact that construction was carried out by a large variety of units (large and small enterprises, government departments, units whose main activity lay in other industries, individuals working on their own account); (c) the frequent changes in small units, which made identification very difficult; (d) the prevalence of sub-contracting; (e) the long production period; (f) the unique character of the products; and (g) the fact that the major part of the construction industry's work was done in the open air.

90. It became clear in the course of the discussion that, in the case of the construction industry, the scope, statistical unit and coverage were very much interrelated and that different solutions served different purposes. It was not possible, therefore, to give such definite recommendations as for mining or manufacturing. However, a number of different possibilities could be outlined.

91. In discussing the scope, a variety of solutions were put forward by different participants. The scope used by the majority of the countries during their construction census was the "construction industry proper"

(ISIC 400), which included all enterprises whose main activity was construction work. As a result, all construction work carried out by other organizations (government departments, own-account construction by units whose main activity lay in other industries) was, of course, omitted, while in many countries this part might represent a significant share of total construction. In several countries a considerable part of building was done by individuals and the Seminar was informed that in stated-aided programmes it was very difficult to evaluate the work done by individuals in building their own houses. In addition to construction enterprises, several countries included within the scope the construction work of government organizations. In some countries even this work was difficult to enumerate, because of the difficulties in separating the cost of construction from other costs also included in the budget. Another possibility was for the scope to cover all those projects for which permits were issued. In some countries these included residential buildings only; in others, other buildings (industrial, commercial, etc.) were also included. One country extended this scope by covering public works (roads, utilities) with the help of an additional inquiry.

92. It was pointed out that the statistical unit and the scope were very closely interrelated. When the scope was "the construction industry proper" (ISIC 400), the enterprise was used as the statistical unit in all the countries. Two participants informed the Seminar that, in their countries, the enterprise was the reporting unit for several items of data, but that enterprises made separate reports on their activities in different regions of the country. When the scope was extended to cover all buildings, or all residential buildings, all the countries used the individual project as the statistical unit. In most cases, the project was defined as the unit to which the permit related, although sometimes one permit might cover many projects.

93. Because of the difficulties arising from the specific problems of the construction industry, coverage was very much restricted in all the countries. In some countries, only large enterprises were covered; in others, only urban enterprises. Again, where the project (site, permit) was the

statistical unit, coverage had to be restricted to urban areas. Even where the permit system existed, it was very difficult in many countries to enforce it and this led to further reduction in coverage. While in the case of permits most countries relied on the data provided by the permit itself, one country collected a special questionnaire from all those who applied for a licence.

94. Basic inquiries into the construction industry were carried out by nine countries in the region. The collection of data from construction enterprises was hindered in some countries by the absence of a reliable directory, even for large construction enterprises. The Seminar, discussing the items of data to be gathered in the basic inquiries, used annex V of "Construction Statistics" (Studies in Methods, Series F, N° 13) as background material and made the following observations on the proposed items of data. As regards the characteristics of the enterprise, the type of work mainly undertaken made it feasible in some countries to differentiate between general builders, enterprises carrying out civil engineering work and specialized units (e.g. plumbers, painters, electricians, etc.). Regarding employment, it was pointed out that it was not necessary to ask separately for the number of unpaid family workers, because they were very rare in the construction industry, and it was suggested that it would be sufficient to gather data on the number of engaged and employed, the latter broken down into operatives and other employees. Regarding the cost of new and used fixed assets acquired from others or produced during the year, the same difficulties were faced as in the case of the manufacturing industry. It was further pointed out that the name, number and capacity of the most important items of machinery and equipment should be included in the questionnaire only after very careful consideration of the feasibility of obtaining these data.

95. The greatest problem for almost all the countries was estimating the value of work done. Three major difficulties were reported in connexion with this item. The first was that many of the projects were unfinished at the end of the period and it was very difficult to estimate the value of work done on these buildings (construction projects). The second

difficulty was that in many countries construction enterprises did not buy all the material they used, but were supplied by the owner of the building. Thirdly, there was the difficulty connected with the method of organization of the work. Frequently the enterprise acted as the main contractor and work sub-contracted out was also included in the value of the building. In many instances, the same enterprise acted as sub-contractor for other projects.

96. Different ways of overcoming these difficulties were discussed. One method proposed for the calculation of the value of work done was to obtain data on the value of work in progress at the beginning and end of the year and on the value of work completed during the year. The major drawback to this method was the need to estimate the value of work in progress. In some countries this estimate was made for each project by the enterprises themselves. Usually the percentage of completion was estimated and the value calculated from the contract price of the whole project. However, many countries collected figures on value of work done during the year rather than on value of work in progress. In some countries construction contracts allowed for monthly (or quarterly) progress payments, which were based on the value of work carried out during the period, i.e. the proportion of the contract completed, but this method of estimation had many drawbacks. Another possible method was to estimate value of work done from the value of materials put in place, together with labour costs and other expenses, but in this case some allowance would have to be made for profits. In all the above-mentioned calculations the materials furnished by the owner (investor) would have to be included in the value of work done.

97. In dealing with the problems of sub-contracting, different solutions might be appropriate. One possibility would be to ask the enterprise for the value of work done by its own labour, i.e. excluding the value of work carried out by sub-contractors. There might, however, be difficulties of enumeration; for example, progress payments were made to the main contractor on the whole work, and any expenses or profits accruing to the main contractor on sub-contracted work would also have to be taken into account.

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Perhaps a more feasible method would be to ask every enterprise to give all the work done as a main contractor and as a sub-contractor, and to ask separately for the amount paid by the enterprise to the sub-contractors. By subtracting the latter, duplication would be avoided. It was also recognized that the calculation of data on value of the work done and value of materials consumed should be consistent, so as to make it possible to calculate value added.

98. In discussing anual construction statistics based on the "enterprise" as the statistical unit, it was recognized that the countries in the region had very limited experience in this field. The need was stressed for an up-to-date directory of large construction enterprises for the purposes of the annual construction inquiry. The Seminar agreed that the six items (total number of persons engaged, number of employed, wages and salaries, total cost of new fixed assets, cost of materials consumed, and value of work done and receipts for services rendered) proposed in document ST/ECLA/Conf.24/L.7 might be feasible for the countries which were starting their work in this field.

99. The Seminar discussed the use of the permit (site or individual project) as a statistical unit. All Latin American countries had an established system of building permits. However, the scope and coverage differed widely. Some covered residential buildings only; others, all kinds of buildings; in some countries, only the capital city was covered, in others, an attempt was made to cover all urban areas. In some countries, the permit system covered building by the private sector only, in others it also covered public sector building. One participant reported that, in his country, with regard to public building activity, the permit system covered the whole country. In all countries, there was a legal requirement to ask for a permit before starting construction work and, in a number of countries, permits were also required before a building could be occupied, i.e. when the building was completed (occupancy permits).

100. Many difficulties were reported by members of the Seminar in the use of permits for statistical purposes. One major difficulty was that, despite the legal requirements for permits, large numbers of houses were built without proper authorization. Another difficulty was the lack of co-ordination

and co-operation between the authorities granting the permits (municipality, prefecture, district, etc.) and the statistical authorities. Thus, the statistical authorities were not in a position to supervise the coverage or the quality of the data. In some countries there was a lack of uniformity in the applications for permits, and thus the different offices supplied different data. It was generally agreed that every possible check should be made to exercise control and to induce all builders concerned to apply for permits. The records of construction enterprises, trade unions, electrical enterprises, waterworks, taxation authorities, etc. might be used. In some countries, inter-penetrating samples might be used for control purposes. It was emphasized that without close co-operation between the authorities concerned it would not be possible to improve construction statistics. It was also mentioned that, in using the permit system, work which had not even been started, and might possibly not be started at all, was included.

101. Regarding the items of data which were collected on the buildings for which building permits had been issued, the following were mentioned: type of building (one-family house, two-family house, multi-family house, industrial, commercial, office, educational buildings, etc.) location, estimated value, date of the permit, approximate date of the start of construction work, number of dwellings, square metres of floor space, size of the lot, number of floors and type of material to be used. In some countries, where occupancy permits were also required, the following data were requested from applicants: type of finished building, location, square metres of floor space, value, principal materials used, plumbing, electricity, gas, number of floors, average cost per square metre, total size of the lot, value of the land at the time when the occupancy permit was issued, number of dwellings and number of rooms. All the countries classified all the data according to type of building and location.

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102. The Seminar agreed that, on the basis of the discussion, different recommendations might be given for the items of data to be gathered for permits issued before construction work started and for occupancy permits. These recommendations were as follows:

(a) Items of data to be gathered from permits issued before construction work started:

First priority

(1) Type of building
(2) Location of building
(3) Estimated value of building
(4) Date of issue of the permit
(5) Square metres of floor space
(6) Number of dwellings
(7) Number of rooms

Second priority

(1) Approximate date of the start of construction work
(2) Number of floors

(b) Items of data to be gathered from occupancy permits:

First priority

(1) Type of building finished
(2) Location of building finished
(3) Value of building
(4) Date of the start of construction work
(5) Square metres of floor space
(6) Number of dwellings
(7) Number of rooms

Second priority

(1) Principal materials used
(2) Plumbing
(3) Electricity
(4) Gas
(5) Size of the lot

All data should be classified according to the type of building and location.

G. THE INTEGRATED SYSTEM OF INDUSTRIAL STATISTICS AND BASES FOR A NATIONAL PROGRAMME IN INDUSTRIAL STATISTICS

103. The Seminar had before it documents ST/ECLA/Conf.24/L.4 and ST/ECLA/Conf.24/L.8 which dealt, respectively, with the integrated system of industrial statistics and the bases for a national programme in industrial statistics.

104. On the subject of the integrated system of industrial statistics, emphasis was laid on the importance of collecting and compiling reliable industrial statistics, for the purposes of economic analysis in general and industrial development planning in particular. Mention was also made of the necessary relationship between the different inquiries in an integrated system, and a number of methodological aspects were discussed.

105. Concerning the relationship between the different inquiries, it was pointed out that the more comprehensive inquiries served as a basis or framework for the annual and more frequent inquiries. They provided information which could be used to establish a directory, data on the kind of activity and size of the statistical unit, weights for the different indexes and a framework for sample surveys. The annual inquiries could be used to update the information obtained in the comprehensive inquiry and at the same time could serve as a basis for the organization of the monthly or quarterly inquiries. The monthly or quarterly inquiries in turn provided data for updating and calculating provisional annual figures.

106. The Seminar discussed methods of achieving reliable and consistent statistical data through co-ordination and integration. The cross-checking of data obtained from the different inquiries (censuses and annual, monthly or quarterly inquiries) was one method of ensuring consistency. In most cases the checking of comparable data could be carried out at the establishment level, to ensure consistency before compilation of the data. This would not, however, eliminate the need to ensure a proper relationship between published data by checking for consistency at different levels of aggregation. This checking was usually carried out by using ratios, indexes, etc. rather than absolute figures because the different inquiries varied in scope and coverage.

107. A number of advantages of an integrated system from the standpoint of the organization of industrial statistics were also pointed out. These included continuity and planning in the work; the opportunity for staff to acquire skill, experience and knowledge of industry; the continuous instruction and experience afforded to respondents; the opportunity for different organizations to co-ordinate their efforts and thus save resources and avoid duplications.

108. While there was unanimous agreement on the objectives and advantages of the integrated system, many practical problems in the way of its achievement were pointed out and discussed. The main difficulty stemmed from the need to co-ordinate the statistical work of the national offices, a problem still to be solved by the majority of the Latin American countries. The Seminar was informed that in some countries the central statistical office or other central office was responsible for co-ordination, while others, statistical boards or special co-ordinating committees had been established. In these countries the co-ordinating office or body had legal authority to effect the required co-ordination between the different agencies.

109. It was emphasized that, if adequate co-ordination was established, both the centralized system and the decentralized system might function satisfactorily.

110. A number of participants reported on anomalies caused by lack of co-ordination in the statistical system. In some countries there was duplication of data collected; furthermore, since the concepts used by the different agencies were not the same, the use of the data received from the various agencies was limited. This was so also because of differences in the scope, coverage, reference periods and classifications used by different agencies.

111. A number of the practical aspects of the integrated system came under discussion. It was pointed out that the classification systems (industrial, commodity, etc.) should be the same in all inquiries. One participant reported that, in his country, if it was necessary in respect of certain items to use different concepts in different inquiries, both concepts were

usually enumerated to ensure integration. For the classification of the statistical units, it was necessary to ensure that they were classified in all inquiries to the same branch of industry, by using the same code numbers in the different inquiries.

112. One participant reported that, in his country, integration was built around the annual industrial inquiry. The comprehensive inquiry was but an appropriate extension of the annual, while the more frequent than annual was a limited version. In all cases the same classification, code numbers, concepts, etc. were used. The major differences were in the scope, coverage and number of items of data collected.

113. The establishment of a common, reliable directory was recognized as essential for an integrated system. Difficulties were reported by some countries in effecting co-ordination in the establishment of a single directory since the different directories used by organizations served completely different purposes.

114. During the discussion on financing, one participant reported that, in his country, where industrial statistics were centralized, any agency that needed additional data and had financial resources could transfer resources to the statistical office for the purpose of obtaining such data.

115. It was suggested that the pooling of both financial and available skilled manpower resources into one office might promote the general development of industrial statistics and facilitate the training of skilled personnel. It was recognized that in some countries statistical offices lost authority because, owing to a lack of resources and skilled staff, they could not provide what was expected of them.

116. As regards the bases for a national programme in industrial statistics, the Seminar agreed that the following points should be taken into consideration:

(a) Recognition of the importance of industrial statistics and the need for a national policy in this field;

(b) The need to examine the industrial statistics situation and requirements in the light of the personnel and financial resources available;

(c) The creation or improvement of an integrated system of industrial statistics;

(i) legal basis;

(ii) structure;

(iii) formulation of work programmes:

- short-term
- medium and long-term;

(iv) availability of personnel, materials and equipment;

(v) definition of responsibilities and conclusion of agreements between the national statistical office and other offices within the system;

(d) Research and studies on industrial statistics programmes in relation to basic censuses or inquiries, current inquiries and special inquiries; use of sampling;

(e) Training courses for personnel and information campaigns.

117. The Seminar felt that those countries that did not yet have a national committee on industrial statistics should establish one, as the first step towards the improvement of this type of statistics. This committee would be made up of representatives from the institutions concerned and would be responsible for carrying out the background studies needed to put the integrated system of industrial statistics into being and for supervising its operation. The statistical office would provide the necessary services for the committee's work.

Annex I

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Annex II

LIST OF DOCUMENTS

A. Working papers

Statistical Office, Annual and more frequent industrial statistics in Latin America (ST/ECLA/Conf.24/L.1)

Economic Commission for Latin America, Experience of the Latin American countries in carrying out the 1963 programme of industrial censuses (ST/ECLA/Conf.24/L.2)

Inter-American Statistical Institute, Inter-American Programme of Basic Statistics: bases for the formulation of standards and methodology for section VIII (Industry) (ST/ECLA/Conf.24.L.3)

Statistical Office, The integrated system of industrial statistics (ST/ECLA/Conf.24/L.4)

Economic Commission for Latin America, Minimum standards list of manufactured products (ST/ECLA/Conf.24/L.5)

Economic Comission for Latin America, Index numbers of industrial production in the Latin American countries (ST/ECLA/Conf.24/L.6)

Statistical Office, The construction statistics in Latin American countries (ST/ECLA/Conf.24/L.7)

Economic Commission for Latin America, Bases for a national programme in industrial statistics (ST/ECLA/Conf.24/L.8)

Economic Commission for Latin America, List of mining products (ST/ECLA/Conf.24/L.9)

United Nations, Construction statistics (Studies in Methods, Series F, No. 13)

B. Background documents

United Nations, International Recommendations on the 1963 World Programme of Basic Industrial Statistics (Statistical Papers, Series M, No. 17, Rev.1, Add.1)

United Nations, International Recommendations in Basic Industrial Statistics (Statistical Papers, Series M, No. 17, Rev.1)

/Pan American

Pan American Union, Report of the VIII Session of the Committes on Improvement of National Statistics (COINS), Panama, 2-14 September 1964 (Doc. 5031a)

United Nations, Index Numbers of Industrial Production (Studies in Methods, Series F, No. 1)

United Nations, International Standard Industrial Classification of all Economic Activities (Statistical Papers, Series M, No. 4)

Economic Commission for Latin America, Proyecto de Lista Uniforme de Productos Manufacturados (E/CN.12/648/Rev.1)

C. Information papers

Instrucciones referentes a recopilación de datos, utilización de definiciones y clasificaciones por los estados miembros de las comunidades europeas, en la encuesta industrial de 1963, submitted by the Statistical Office of the European Communities

O desempenho da economia brasileira em 1965, submitted by Rudolf Wuensche (Brazil)

Levantamento de produçao fisica e de dados generais da industria de transformaçao, submitted by Rudolf Wuensche (Brazil)

A Study of the Gross Domestic Product of British Honduras (Belize), submitted by Charles Woods (British Honduras - Belize)

Manpower Report, 1964, March-September 1965 and March 1966 issues, submitted by Charles Woods (British Honduras - Belize)

Situación de las estadísticas industriales de Chile, submitted by Rubén Peña Ren (Chile)

Metodología usada para el cálculo de los índices de volumen físico de la producción de la industria, submitted by Carlos Alfonso Urrego Acero (Colombia)

Estadística de la construcción, submitted by Carlos Alfonso Urrego Acero (Colombia)

Publicaciones programadas para las investigaciones sobre la industria manufacturera, submitted by Carlos Alfonso Urrego Acero (Colombia)

Principales aspectos de la metodología usada por el Departamento Administrativo Nacional de Estadística para la elaboración de las cifras sobre la industria manufacturera, submitted by Carlos Alfonso Urrego Acero (Colombia)

/Desarrollo de

Desarrollo de un sistema de estadísticas contínuas para la industria en la República de Cuba, submitted by Cándido Alberto Bosch (Cuba)

Censos industriales, estadísticas industriales contínuas e índices de producción industrial, submitted by Patria Stella Madera Daniel (Dominican Republic)

Primer Censo Minería y Manufactura, 1965, submitted by Luis E. Coronel (Ecuador)

Estadísticas anuales y de manufactura y minería del Ecuador, submitted by Luis E. Coronel (Ecuador)

Estadísticas de la construcción, submitted by Luis E. Coronel (Ecuador)

Informe sobre el desarrollo de las estadísticas industriales en El Salvador, submitted by Luis Raúl Rodriguez (El Salvador)

Tercer Censo Industrial, 1961, submitted by Luis Raúl Rodríguez (El Salvador)

Survey of industrial and commercial activity during 1965 now being undertaken in Guyana, submitted by Bertram Orlando Bowman (Guyana)

El VII censo industrial 1961, submitted by Rodolfo García de Alba (Mexico)

El VIII censo industrial 1966, submitted by Rodolfo García de Alba (Mexico)

Report on the state of industrial statistics in the Netherlands Antilles, submitted by Willem J. de Voogt (Netherlands Antilles)

Situación de las estadísticas económicas en Nicaragua, submitted by Leonel Campos Berríos (Nicaragua)

Situación de las estadísticas industriales en Panamá, submitted by Juan M. Caballero (Panama)

Experiencia del censo económico de 1963 del Paraguay, submitted by Amílcar Godoy Martínez (Paraguay)

Annex III

ITEMS OF DATA TO BE GATHERED IN ANNUAL SURVEYS

Statistics and items of data	For countries in Latin America			
	Which are developing their annual statistics		Which have already developed their annual statistics	
	Statistical Units			
	Large	Smaller	Larger	Smaller
A. Characteristics of the Statistical Unit				
1. Kind of activity (industry)	(1)	(1)	(1)	(1)
B. Total number of persons engaged during a single period of the inquiry year	(1)	(1)	(1)	(1)
Of which				
1. Working proprietors 2. Unpaid family members	(1)	(1)	(1)	(1)
3. Operatives	(1)	(1)	(1)	(1)
4. Other employees	(1)	(1)	(1)	(1)
C. Number of operatives during several specific periods of the inquiry year	(1)		(1)	
D. Number of man-hours worked by operatives during the inquiry year	(1)		(1)	
E. Total wages and salaries paid during the inquiry year to employees	(1)		(1)	
Of which To operatives	(1)		(1)	

Note: (1) First priority, (2) second priority.

/Annex III (continued)

Annex III (continued)

	Larger	Smaller	Larger	Smaller
F. Total cost of new fixed assets acquired from others or produced during the inquiry year	(1)		(1)	
Of which				
1. Machinery, transport and other equipment			(1)	
2. Buildings, land improvements and other construction			(1)	
G. Total cost of used fixed assets acquired during the inquiry year			(1)	
Of which				
1. Machinery, transport and other equipment			(2)	
2. Buildings, improvements to land, other construction and land			(2)	
H. Total value of sales during the inquiry year of fixed assets used by the statistical unit			(1)	
Of which				
1. Machinery, transport and other equipment			(2)	
2. Buildings, improvements to land, other construction and land			(2)	
I. Value of stocks at the beginning and end of the inquiry year	(2)		(1)	
1. Raw materials, fuels, supplies, etc. (including goods ordinarily to be sold in the same condition as purchased)	(2)		(2)	
2. Work in process	(2)		(2)	
3. Finished products	(2)		(2)	

/Annex III (continued)

Annex III (continued)

	Larger	Smaller	Larger	Smaller
J. Quantity of electricity consumed during the inquiry year	(1)		(1)	
1. Quantity of electricity purchased		(2)	(1)	(2)
2. Quantity of electricity generated			(2)	
3. Quantity of electricity sold			(2)	
K. Cost of goods received or consumed and payments for services rendered during the inquiry year	(1)		(1)	(2)
Of which				
1. Cost of raw materials, supplies, components, etc.	(2)		(1)	
2. Quantity and cost of individually important materials consumed			(1)	
3. Payments for services rendered	(2)		(1)	
L. Value of goods shipped or produced and receipts for services rendered to others during the inquiry year	(1)	(1)	(1)	(1)
Of which				
1. Value of all products of the statistical unit	(2)		(1)	
2. Quantity and value of individually important products a/	(2)		(1)	(2)

a/ For selected semi-finished products total production is to be gathered.

/Annex III (conclusion)

Annex III (conclusion)

	Larger	Smaller	Larger	Smaller
3. Value of goods shipped in the same condition as purchased			(2)	
4. Receipt for industrial work done or services rendered to others	(2)		(1)	
5. Value of electricity sold			(2)	
M. Gross output during the inquiry year	(1)		(1)	(1)
N. Value added	(1)		(1)	(2)

Annex IV

ITEMS OF DATA TO BE GATHERED IN INDUSTRIAL STATISTICS
IN MONTHLY OR QUARTERLY INQUIRIES

	In countries with developing	In countries with developed
	Monthly or Quarterly Industrial Statistics	
A. Value of goods sold to others during the inquiry period	(2)	(2)
Of which		
Production of selected commodities in physical unit or in value a/	(1)	(1)
B. Number of operatives during the period	(1)	(1)
C. Number of employees during the period		(1)
D. Number of man-hours worked by operatives during the period b/	(1)	(1)
E. Total wages and salaries paid during the inquiry period		(1)
Of which		
To operatives		(1)
F. Quantity of electricity consumed during the inquiry period	(1)	(1)

Note: (1) First priority, (2) second priority.

a/ For selected semi-finished products total production is to be gathered.

b/ Large establishments only.

/Annex V

Annex V

SUGGESTED MODIFICATIONS TO THE MINIMUM LISTS OF MANUFACTURED AND MINING PRODUCTS

ISIC group	Comments
140	Add "Sand" and "Building stone".
202	Combine "Soft cheese" and "Hard Cheese" together as one product and add "Ice cream".
203	Add "Tomato paste" and add "catsup, etc." to "Tomato ketchup".
205	Combine "Fine flour" and "Coarse flour" together as one product.
207	Substitute "Semi-refined cane sugar" for "Centrifugated cane sugar".
208	Combine "Chocolate bars" and "Candies and chocolate confectionaries" together as one product.
209	Add "Soya bean oil", "Coconut oil", "Chili sauce" "Babaçu oil" and "Tung oil".
211	Add "Rum".
213	Add "and cans" to "Beer in bottles".
214	Add "Cola-type drinks".
220	Study whether the product "Tobacco leaf stripped" should not be regarded as an agricultural product. Add "chewing tobacco".
231	Add "Yarn of hard fibres" and "Woven fabrics of hard fibres", and "Alpaca and vicuña yarn".
234	Add "Pyjamas" and "Ponchos". Study the possibility of grouping these products under "Outer clothing", "Underwear" and "Other garments". Substitute "Blocked and unblocked straw hats" for "Straw hats".
251	For railway sleepers, substitute "Unit" for "Metre^3".
261	Combine "Office chairs for office use" with "Filing cabinets; files, card index; filing boxes". Consider the possibility of a more meaningful unit of measurement.
271	For the product "Reconstituted wood (Particle boards)", substitute "Metre^2" for "Ton" as the unit of measurement.

/Annex V (conclusion)

Annex V (conclusion)

ISIC group	Comments
272	Add "Cardboard boxes" and "Envelopes for correspondence".
302	Under "Rubber tyres", delete "For motorcycles and motor scooters" and add "For tractors".
311	Revise products 62 to 71.
321	Add "Semi-refined petroleum".
339	Add "Cement roof-tiles".
350	Study the possibility of a better definition for product 1.
381	Add "Private yachts".
383	Add "Mini-buses" and "Lorry bodies".
399	Add "Plastic record blanks", "Gold jewellery", "Ball-point pens", "Plastic footwear for children".