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**DEVELOPING A PROGRAMME OF WORK ON MANUFACTURING STATISTICS
FOR ENDORSEMENT BY THE STATISTICAL CONFERENCE
OF THE AMERICAS OF ECLAC**

A paper prepared by the United Nations Statistics Division (UNSD) in collaboration with
Brazil's National Statistics Office (IBGE)

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I. INTRODUCTION, OBJECTIVES AND BACKGROUND

A. INTRODUCTION

This document suggests an approach for the development of a Manufacturing Statistics Work Programme for Latin American countries. This document is to be submitted to the Statistical Conference of the Americas for their endorsement and to identify a member state to take responsibility for developing the specifics of the Work Programme.

The Manufacturing Statistics Work Programme in the Latin American region aims to advance national and regional statistical systems in compiling and reporting manufacturing statistics, which are important statistics in their own right, but also because of their important role as an input into the compilation of the national accounts. This multi-year regional programme aims to bring together (i) countries from Latin America, and (ii) development partners to coordinate their efforts.

A solid foundation of manufacturing statistics and national accounts supports sound macroeconomic management, evidence-based policy making and international comparison.

The overall direction of this Work Programme can be characterized by regional coordination and implementation to strengthen the national statistical capacity for the compilation and reporting of manufacturing statistics and by consequence national accounts statistics.

B. OBJECTIVES OF THE WORK PROGRAMME

The overall objective of the Work Programme is to improve the quality, production, dissemination and comparability of manufacturing statistics (and by consequence national accounts data) at the country and regional level and to do so in a sustainable manner.

Specific objectives of the Work Programme at the regional and national levels include:

- Implementing updated international recommendations/standards (e.g. International Recommendations on Industrial Statistics (IRIS) 2008, ISIC Rev4, CPC Ver2, and the International recommendations on the Index of Industrial Production (IIP));
- Reviewing current country practices with a view to regional harmonization, where appropriate, particularly in the areas of new industrial statistics challenges like outsourcing;
- Promoting regional coordination among development and financing partners active in statistical capacity building; and
- Implementing regional programmes, guidelines and procedures.

C. BACKGROUND

Manufacturing activities are growing worldwide and this is particularly the case in developing and transition economies. In addition, in recent times manufacturing production has taken on a global character with production owners, production organizers, production contractors and clients located in different parts of the world. Manufacturing statistics also continue to play an important role in the compilation of the national accounts. These characteristics mean that the compilation of methodologically sound and regionally and internationally comparable manufacturing statistics is extremely important.

Acknowledging the importance of manufacturing statistics, both in their own right and for national accounts purposes, the recent review to the International Recommendations for Industrial Statistics (IRIS) 2008, and the need to improve the quality and international comparability of these statistics, the United Nations Statistics Division (UNSD) commenced the development of regional programmes for improving Industrial (Manufacturing) Statistics.

The first Workshop on Manufacturing Statistics for the Latin American region was held in Rio de Janeiro, Brazil from 24-26 September 2007. This workshop focused on determining the current status of industrial statistics in the region as well as providing a forum for sharing experiences and expertise. An expert in industrial statistics from Statistics Canada provided advice and direction to the participants.

Following discussions at the Brazil workshop it was clear that a structured and detailed assessment of the current status of Manufacturing Statistics in the Latin American region was needed to further develop a Work Programme in this area of statistics. The UNSD proceeded to produce assessment tools that would facilitate the development of a detailed Manufacturing Statistics Work Programme as well as identify priority areas for action. Based on discussions at the Brazil workshop it was agreed that the UNSD would commence this detailed assessment of industrial statistics by examining the quality and content of business registers in the region. It was clear from the feedback of the participants that improvements to the business register would provide clear improvements to manufacturing statistics generally.

A quality assessment framework¹ that utilizes the Statistical Production Process² was used to conduct a detailed assessment of individual country business registers. These country assessments provided the basis for the second workshop on Manufacturing Statistics in Lima, Peru from 19 – 22 August 2008 which focused on business registers. Statistics Canada once again provided an expert that led the discussion and provided technical assistance and advice.

The UNSD will further develop the quality assessment tools to allow for an assessment of the other aspects of the Statistical Production Process for Manufacturing Statistics (i.e. the conduct of surveys and the use of administrative data, the integration frameworks which focus on summarizing the source data into statistical indicators and finally the dissemination of these statistics). These assessments will then be carried out as part of the development of the detailed Manufacturing Statistics Work Programme following submission of this document to the Statistical Conference of the Americas³.

¹ See <http://unstats.un.org/unsd/industry/meetings/eclac2008/AC160-5.PDF>.

² See annex 1 for a diagram of the Statistical Production Process.

³ More details on the assessment process are provided in sub-section *F. Activities undertaken and suggested future activities* below.

II. WORK PROGRAMME AND SUGGESTED ACTIONS

A. KEY DELIVERABLES

The Manufacturing Statistics Work Programme for Latin America should aim to produce the following list of key deliverables:

- Data that meets the requirements set out in the International Recommendations for Industrial Statistics (IRIS) 2008⁴. The IRIS 2008 contains the minimum set of data required for international comparison and reporting. An assessment of each country against the IRIS 2008 requirements can be found in annex 3 of this document. The IRIS 2008 should also be used as the reference guide for topics such as scope, data item definitions and statistical units.
- Implementation of recently revised international classifications:
 - Countries to implement the International Standard Industrial Classification of all Economic Activities (ISIC) Revision 4; and
 - Countries to also implement the latest product classification, namely the Central Product Classification (CPC) Version 2.
- Implementation of the International Recommendations relating to the Index Numbers of Industrial Production. These international recommendations are currently under review and will be presented to the United Nations Statistical Commission in 2009.

B. COORDINATION, GOVERNANCE, MONITORING AND REPORTING

In order to reach the given objectives, a regional governance structure needs to be put in place. The regional governance structure needs to establish coordination, monitoring and reporting procedures, including milestones, quality control etc. This governance structure should have two distinct dimensions (i) coordination, monitoring of and reporting of the implementation of the Manufacturing Statistics Work Programme itself; and (ii) the coordination, monitoring and reporting of country and regional progress against periodic benchmarks.

- (i) *Coordination, monitoring and reporting of the implementation of the manufacturing statistics programme itself* – the objective is to ensure that the implementation programme is carried out efficiently and effectively. Moreover, it will enable the region to define the activities required to execute the implementation process, recommend the duration for each of the activities, prioritize activities and establish dependencies between activities to guarantee effective management. Further, other critical resources such as staffing and local financing needed to operationalize each of the activities should also be covered.

⁴ See annex 2 for a copy of these requirements. Source IRIS 2008, pages 121, 122 of <http://unstats.un.org/unsd/statcom/doc08/BG-IndustrialStats.pdf>

The actual execution of the coordination, monitoring and reporting would be in the hands of a member state⁵ that has been delegated the necessary responsibility by the Statistical Conference of the Americas. The nominated member state would keep track of each activity relevant for the specific national agency and quickly be able to recognize where any delays in activity will affect the planned completion date as well as the status of deliverables. This would afford both short and intermediate term views of the process. Reports on progress would be submitted to Statistical Conference of the Americas following consultation and direct input from each national statistical office or relevant ministry.

- (ii) *Coordination, monitoring and reporting of country/regional progress against periodic benchmarks* – the objective is the coordination, monitoring and reporting of country/regional progress on implementation, which will be assessed for compliance, quality and scope in the predetermined benchmark years of, for example, 2010, 2011 and 2012. It would be necessary to agree on key deliverables of the implementation programme a priori. Their details should be spelled out and the range of delivery dates indicated. The ‘milestones’ and ‘Minimum data requirements set out in the IRIS 2008’ already adopted by the UN Statistical Commission will serve as the starting point. The periodicity of reporting can be mutually agreed. Moreover, the reporting should carefully identify delays, failures and other shortcomings associated with specific activities, accompanied by appropriate explanation. The lessons learned can be used iteratively to develop best practice. The reporting of progress against the benchmarks to the Statistical Conference of the Americas will be undertaken by the nominated member state following consultation and direct input from the national statistical office or relevant ministry.

C. ACTIVITIES UNDERTAKEN AND SUGGESTED FUTURE ACTIVITIES

UNSD has recently coordinated two regional meetings on manufacturing statistics. The first in Brazil in 2007 focused on a broad assessment and discussion of manufacturing statistics in the region. The Peru workshop in August 2008 focused attention on the quality and content of the business registers used by countries as the basis for compiling their industrial statistics.

The business register assessment was carried out in the following way:

- UNSD is developing a quality assessment framework that is linked to the statistical production process;
- This quality assessment framework was used to develop a questionnaire⁶ specifically targeted at identifying the current status of the business registers used by individual countries as well as areas for improvement;
- An analysis of the country responses to the questionnaire determined the content of the Peru workshop where expert guidance/training was provided by Statistics Canada. The focus of the workshop was on business register issues that are relevant to a number of countries in the region. Further assistance at the country level may be required in the future to address specific country issues;

⁵ Brazil (IBGE) is the current secretariat of the group and appears well positioned to take on this role.

⁶ <http://unstats.un.org/unsd/industry/surveybr/loginbr.asp>.

- The discussion at the Peru meeting also high-lighted additional business register issues to be incorporated into the Manufacturing Statistics Work Programme;
- The discussion also led to a common goal relating to the coverage of business registers in the region.

The assessment of the country's business registers carried out by the UNSD as well as discussions at the Peru workshop has led to the following suggested actions. These actions are required to enable countries to improve the quality of their manufacturing statistics and to meet the IRIS 2008 requirements:

- Countries should establish a dedicated business register unit within each statistical office. This dedicated business register unit should focus on the development of a business register (in situations where a business register does not currently exist) as well as on-going maintenance of the records on the register;
- National Statistics Offices should focus on building formal agreements with Taxation and Administrative government ministries as an information source for the development and maintenance of business registers;
- The scope of the business register should initially focus on the industrial sector but aim to include all economic activities;
- The business register should include all formal units, irrespective of size of business (i.e., explicitly exclude informal units);
- The business register should contain enterprise units as well as establishment units. Ownership links between the enterprise and establishments should be recorded on the business register; and
- National Statistics Offices should develop strategies to obtain detailed information about the structure and operation of the largest and most influential companies in the national economy. This is because these companies have the most influence on economic statistics.

The detailed plan and milestones to achieve the business register objectives will be determined following the endorsement of this document by the Statistical Conference of the Americas.

III. THE WAY FORWARD

It is suggested that the above process to assess the business registers of the countries also be used to assess all aspects of the production of industrial statistics. That is, to examine the methods and approaches used by countries in the region to conduct manufacturing statistics surveys, to assess the methods and tools to produce aggregate manufacturing data and to assess the dissemination of the data. The assessment of these aspects of the production of manufacturing statistics can then be used as the basis for developing more detailed steps in the Manufacturing Statistics Work Programme where future regional and country activities will be determined and priorities set.

To date the UNSD has coordinated the first two meetings held in Brazil and Peru while Brazil (IBGE) has acted at the secretariat of the group. The UNSD's future role is to support the coordination of future regional activities carried out by the nominated member state (e.g. Brazil). The UNSD role would be limited to regional activities and assistance in identifying relevant experts in the required fields; while coordination and implementation of activities at the national level is expected to be led by the Statistical Conference of the Americas in collaboration with the nominated member state (e.g., Brazil).

The Statistical Conference of the Americas is expected to endorse the development of a Manufacturing Statistics Work Programme and to identify a member state to take responsibility for developing the specifics of the Work Programme. The specifics of the Work Programme could include, based on discussion and agreement by participants at the Peru workshop:

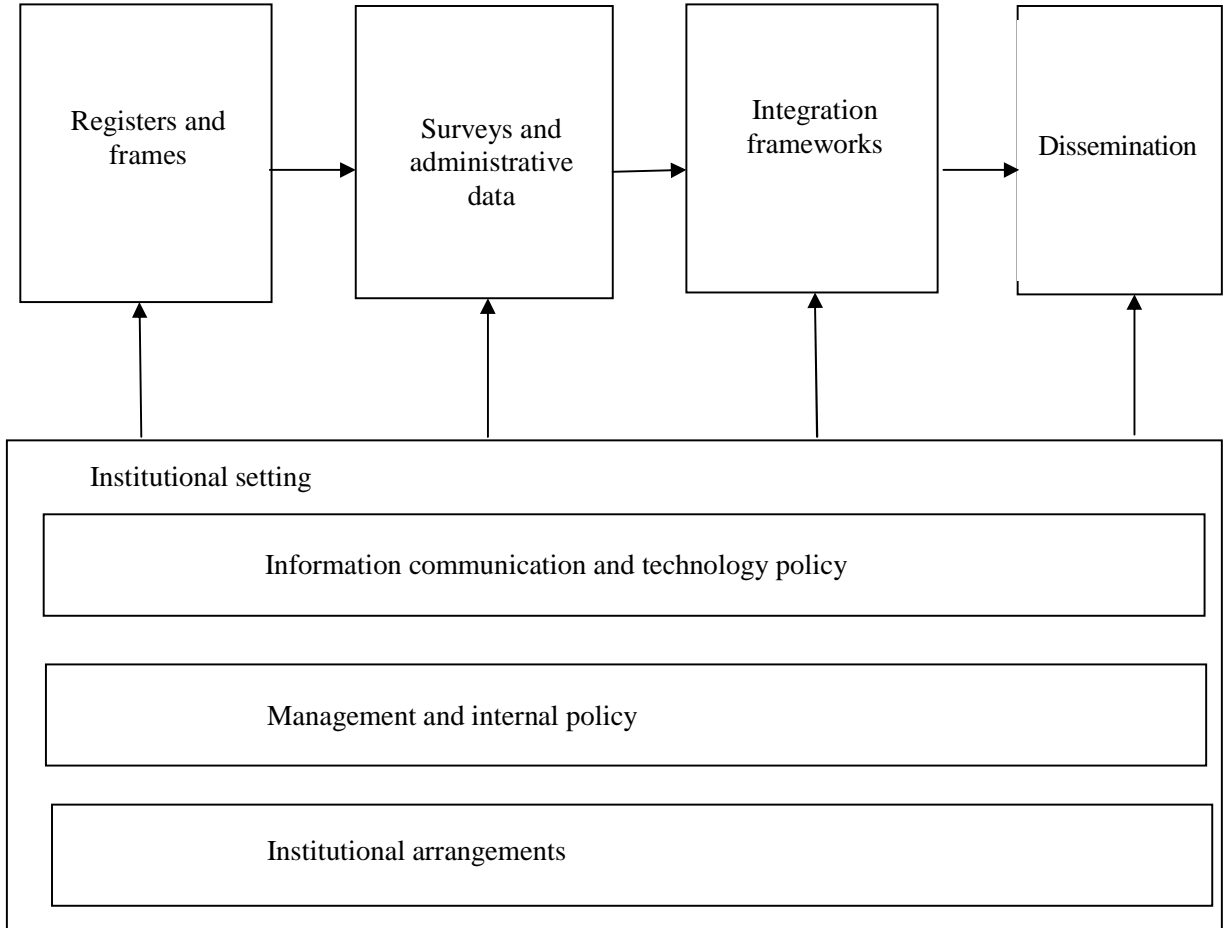
- Development of a timetable to carry out the entire production process quality assessment of countries in the region;
- Coordinate and implement the country quality assessment of manufacturing statistics;
- Determine priority areas for action based on the quality assessment;
- Outline milestones and benchmarks that countries need to achieve and a timetable for measuring progress;
- Identify funding options and resource requirements to carry out the Manufacturing Statistics Work Programme;
- Identify consultants/experts to undertake specific country assistance; and
- Submit the necessary status reports to the Statistical Conference of the Americas.

The process of work for each step in the Statistical Production Process could be outlined as follows in this Programme:

- Quality assessment of current state in participating countries;
- Conduct of a regional workshop, using the quality assessment information to focus on specific problems;
- Discussion and agreement among participating countries to reach common programme goals;
- Agreement on possible exceptions for individual countries;
- Identification of specific needs for assistance;
- Coordination of country assistance through network of consultants; and
- Periodic progress review, based on the quality assessment framework.

Annex 1

STATISTICAL PRODUCTION PROCESS FRAMEWORK



Annex 2

**INTERNATIONAL RECOMMENDATIONS FOR INDUSTRIAL STATISTICS
2008 – DATA REQUIREMENTS**

1. Data items for international reporting with annual periodicity

The following table provides the list of data items on industrial statistics and their level of details recommended for international dissemination with annual periodicity.

Data item	Level of details	Minimum reporting level (in terms of ISIC Rev. 4)	Time lag (after close of reference year)
A. Demography			
1.10 Number of enterprises	Broken down by activity, size class	3-digit level for activity Breakdown 1-digit level for size class breakdown	18 months
B. Employment			
2.1 Total number of persons employed	Broken down by activity and size class	3-digit level for activity Breakdown 1-digit level for size class breakdown	18 months
2.1 Total number of employees	Broken down by activity and size class	3-digit level activity Breakdown 1-digit level for size class breakdown	18 months
C. Compensation of employees			
3.1 Wages and salaries in cash and in kind of employees	Broken down by economic activity	3-digit level	18 months
H. Output			
8.1 Gross output (at basic prices)	Broken down by economic activity	3-digit level	18 months
J. Value added			
10.1 Total value added (at basic prices)	Broken down by economic activity	3-digit level	18 months
K. Gross fixed capital formation			
Gross fixed capital formation	Broken down by economic activity	1-digit level	18 months
M. Environment			
13.1 Environmental protection expenditure	Broken down by economic activity	3-digit level	18 months
Q4.2.4 Total energy consumed (terajoules)	Broken down by economic activity	3-digit level	18 months
Q4.3.1.3 Total water used (cubic meters)	Broken down by economic activity	3-digit level	18 months

For international comparability the information on these indicators should be provided annually covering the entire industrial activities in the economy.

2. Data items for international reporting with quarterly periodicity

The following table provides the list of data items on industrial statistics and their level of details recommended for international dissemination with quarterly periodicity.

Data item	Level of details	Minimum reporting level (in terms of ISIC Rev. 4)	Time lag (after close of reference year)
B. Employment			
2.1 Total number of persons employed	Broken down by economic activity	2-digit level	3 months
2.1.3 Total number of Employees	Broken down by economic activity	2-digit level	3 months
C. Compensation of employees			
3.1 Wages and salaries in cash and in kind of employees	Broken down by economic activity	2-digit level	3 months
L. Orders			
12.1 New orders received	Broken down by economic activity	2-digit level	3 months
12.2 Unfilled orders	Broken down by economic activity	2-digit level	3 months
Index of Industrial production			
Index of industrial production	Broken down by economic activity	2-digit level	3 months

