UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

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E/ESCAP/CST/INF/16/Corr.1
23 December 2008

ENGLISH ONLY

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

Committee on Statistics

First session
4-6 February 2009
Bangkok

New International Standards and Priorities of Industrial Statistics

Corrigendum

The dates of the session *should read* as above.

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UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

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E/ESCAP/CST/INF/16
21 November 2008

ENGLISH ONLY

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

Committee on Statistics

First session
15-17 December 2008
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New International Standards and Priorities of Industrial Statistics[1]

Introduction

1. Asia Pacific region accounts for more than 40% of the world industrial production, which underlines the importance of this region for UNIDO as a UN specialised agency in industrial development. The share of this region in manufacturing of developing world is even higher. Asia contributes more than 70% of total manufacturing value added (MVA) of developing world compared to 22% of Latin America and 3% of Africa. Industrial growth rate of Asian developing countries is faster than the world average. Since 2000 MVA in Asian countries grew in average by almost 9% per annum. Despite these achievements, poverty remains major challenge of socio-economic development for many countries in Asia, where two-third of worlds poor are living. This problem is especially severe in South Asia where 1/3 of about 1.5 billion people, that is around half billion people, are living in abject poverty. UNIDO's efforts in the region are directed to reduce the income poverty through promoting entrepreneurship**,** strengthening productive capacities and using affordable and renewable energy sources. SME development creates opportunities of employment and self-employment, which eventually generates the income and prevents households from being fallen into the poverty. Statistics plays an indispensable role in achieving these goals, as the only policy and programmes based on undeniable empirical evidence can bring the expected results. Reliable statistics are essential at the stage of programme identification and formulation, monitoring of progress and finally for impact analysis.

[1] This document was contributed by Mr. Shyam Upadhyaya, Chief Statistician, United Nations Industrial Development Organization (UNIDO). It has been reproduced without formal editing.

2. Industrial statistics as a part of economic statistics covers, as defined in International recommendations for industrial statistics 2008, mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply and water supply; sewerage, waste management and remediation activities (Section B, C, D and E of ISIC rev-4). UNIDO collects data from the UN member states (except for OECD member states, for which OECD collects data and transmits to UNIDO for compilation of global statistics) on mining and quarrying, manufacturing and electricity, gas and water supply. UNIDO compiles and disseminates only manufacturing data while data for two other sectors are transmitted to UN Statistics Division. Currently, UNIDO maintains international industrial statistics database at 4-digit level of ISIC rev-2 and rev-3. There is a high demand of these data from international organizations, business associations, development agencies, universities, individual researchers, students and many other data users. Importance of manufacturing data has been increased more than ever especially because the industrial growth determines the overall economic growth in many emerging economies. Manufacturing is also a driving sector for research and development, technological innovation and production of goods for such fast growing activity like information and communication. UNIDO will continue to provide this global service with industrial statistical products, at the same time, it is also imperative that conceptual changes and methodological updates embraced by the international statistical community are timely reflected in the statistical products of the Organization.

New international standards for industrial statistics

3. International comparability has been one of the major quality dimensions of UNIDO statistical activities i.e. maintaining international industrial statistical database and providing technical assistance to countries of developing and transitional economies under the national industrial statistics programme. International comparability of industrial statistics can only be assured by methodological uniformity in collection of primary data, compilation of major indicators and dissemination of statistical products. In recent years, UN Statistics Commission has endorsed the series of new recommendations with a wide range of changes in international methodological standards of industrial statistics. The most recent changes include:

- International standard industrial classification of all economic activities, ISIC rev-4, (In place of ISIC-rev 3 endorsed in 1989, which is currently used by majority of countries of Asia with few exceptions that are still using rev-2, 1968)
- International Recommendations for Industrial Statistics, 2008 (It replaces the earlier recommendation adopted in 1983);
- The System of National Accounts, 2008 (It replaces SNA – 93 and its later updates);

- International Recommendations for the Index numbers of Industrial production (expected to be adopted by the UN Statistics Commission in its forthcoming session of February 2009; earlier publication in 1950).

4. Besides, IMF has published the new manual for producer price index in 2004, which has direct relation to the forthcoming publication of International Recommendations for the Index numbers of Industrial production. Currently, an Inter-agency Taskforce is working on a publication of a manual on international merchandise trade statistics (its next meeting will take place in ESCAP Bangkok in March 2009). This manual will build a conceptual framework for relating production data with international commodity trade data.

5. UNIDO as a responsible agency for global industrial statistics has been a major party in the process of development of these recommendations. Therefore, its role is also imminent in implementation of these standards especially in those countries where NSOs lack technical capacity to build the system in line with the new statistical standards.

New priorities of industrial statistics

6. Apart from the revision of international standards there are new priorities of industrial statistics arisen from the role of manufacturing sector in overall economic development. In the changed context, industrial development is progressively based on knowledge, technological innovation and efficient use of energy. In response to new challenges industrial statistics have to play its role in developing statistical methods and procedures of collecting, processing, analysing and disseminating data related to these emerging issues. National and international data users expect the expanded set of statistics on:

- Statistics of R&D expenditure made by industrial enterprises;
- Statistics of industrial innovation;
- Statistics of production and sale of new and technologically improved products, acquisition of new and technologically improved equipment; outright purchase of patent, technical know-how, trademark and copyrights;
- Statistics of ICT usage by industrial enterprises;
- Statistics of energy consumption in industry by type.

7. Collection of country data on new priority areas requires close cooperation with NSOs. UNIDO might need to experiment new statistical techniques by conducting pilot studies in participation of NSO’s. Data for above-listed variable are mostly available for OECD countries,

however for global comparison it is essential that data are available for other countries too. Therefore UNIDO encourages the NSOs to address the new priority areas of industrial statistics and to bring it in realm of regular official statistics.

Compilation of statistical indicators of industrial performance

8. IRIS-08 recommends the countries to compile the performance indicators in order to gauge the overall performance of the industrial sector. Industrial performance as an outcome of the various social, economic and technological factors is measured by the System of industrial performance indicators (SIPI) that covers – productivity, structural change and competitiveness. Currently, UNIDO maintains the world productivity database, which contains data, calculation methods, working papers and country studies. Users can compute online the total factor productivity for any given country using desired method and obtain the results. At the moment it is done at the macro level, which will be brought to the sector and sub-sector level. UNIDO also maintains the Industrial development scoreboard database. The database includes a combination of indicators that reflect the production level, structure and export of manufactured products, namely;

1. Manufacturing value added (MVA) per capita
2. Manufactured exports per capita
3. Intensity of industrialization
    - Share of manufacturing in GDP
    - Share of medium and high technology activities in manufacturing value added
4. Export quality
    - Share of manufactured exports in total exports
    - Share of medium and high technology products in total exports.

For each of above six variables a generalized index of i-th country, j-th year and k-th indicator is constructed as;

$$I_{i,j}^{k} = \frac{X_{i,j}^{k} - \min(X_{i,j}^{k})}{\max(X_{i,j}^{k}) - \min(X_{i,j}^{k})} \qquad I_{i,j}^{k} = \overline{0,1}$$

9. In case of component 3 and 4 the sum of variable indices are divided by 2 for aggregation to the component level. A composite index of competitive industrial performance (CIP index) is then constructed from four indices giving equal weight to each component as;

$$CIP_{i,j} = \frac{1}{4}\sum_{k=1}^{4} I_{i,j}^{k}$$

10. Besides, UNIDO applies some other classifications derived from ISIC such as resource-based industries, agro-based industries, stages of processing and technological intensity. These classifications provide analytical framework for statistical indicators of industrial performance. These methods are extensively applied to national data for international comparisons.

Implementation of new standards and priorities

11. First, it is necessary that NSOs of the Asia Pacific region become aware of the new standards and underlying conceptual changes. Due to the resource constrains many NSOs cannot attend the international expert group meetings and do not have access to the documents. It limits the possibility of learning the recent changes in international standards. The implementation plan approved by UNSC recommends organizing regional workshops. So far UNIDO organized a workshop for Arab countries in Amman in May 2008 in cooperation with the Arab Institute for Training and Research in Statistics. Another workshop was conducted in Lima in August 2008 by UNSD with contribution from UNIDO and Statistics Canada. UNIDO has made a proposal to SIAP to conduct similar workshop in 2009 in Astana for Central Asian countries. Similar training programmes are required for other parts of the Asia Pacific region.

12. Secondly, implementation of new recommendations could be made through capacity development projects. In past UNIDO provided technical assistance in capacity building to a number of Asian countries such as Cambodia, Indonesia, Laos, Mongolia, Nepal, Sri Lanka and Viet Nam. UNIDO also had a regional project for industrial statistics database of ASEAN. Currently, UNIDO is involved in the cluster mapping survey in India for SME development, Business registration reform – setting up nationwide single-point-registration for business, tax and statistics in Vietnam, investment survey in Vietnam under One UN programme. A project is in final stage of approval for the survey of cultural industry in Bhutan.

13. For both kinds of programme UNIDO is ready to cooperate with ESCAP Statistics Division, other regional organizations as well as the NSOs of this region. We are aware of the difficulties in obtaining required resources for economic statistics activities. Many international agencies and national government set priority to social questions such as health, education, gender equality. Subsequently related statistical programmes have better chances of funding than those covering economic issues. However, only economic progress can bring real change to society. Expansion of production activities create job opportunities and generate income which enables peoples to afford the better quality of life. Therefore, it is imperative that we collectively pursue the importance of economic statistics including industrial statistics and work together under an action plan, which will be approved by this first session of Committee on Statistics.

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