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ENERGY STATISTICS IN IRAN

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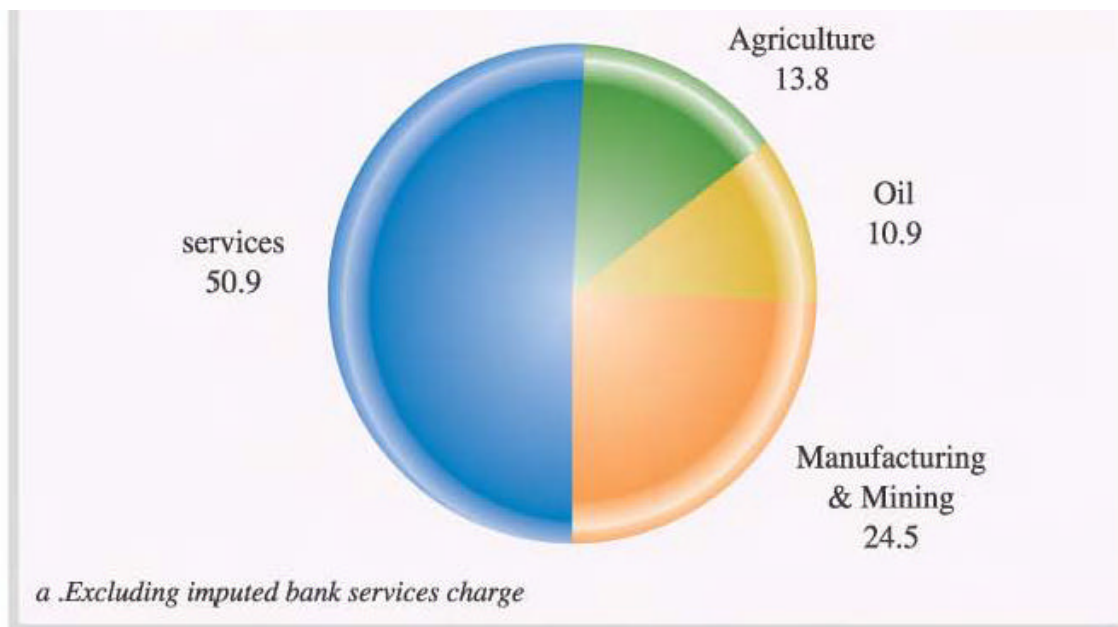
**STATISTICAL CENTRE OF IRAN
Department of Manufacturing, Mining &
Environment Statistics**

Introduction

Iran, with an area of 1.6 m.km² and boundary of 8731 km is located in the heart of Middle East, southwest of Asia .

According to 2006 Population and Housing Census, Iran has a population of over 70 million. Iran's economy is highly linked to its energy sector, particularly the oil and gas revenues. This imposes a big challenges for managing the economy because of recurrent external shocks, particularly fluctuation international oil prices, that dictates the economy.

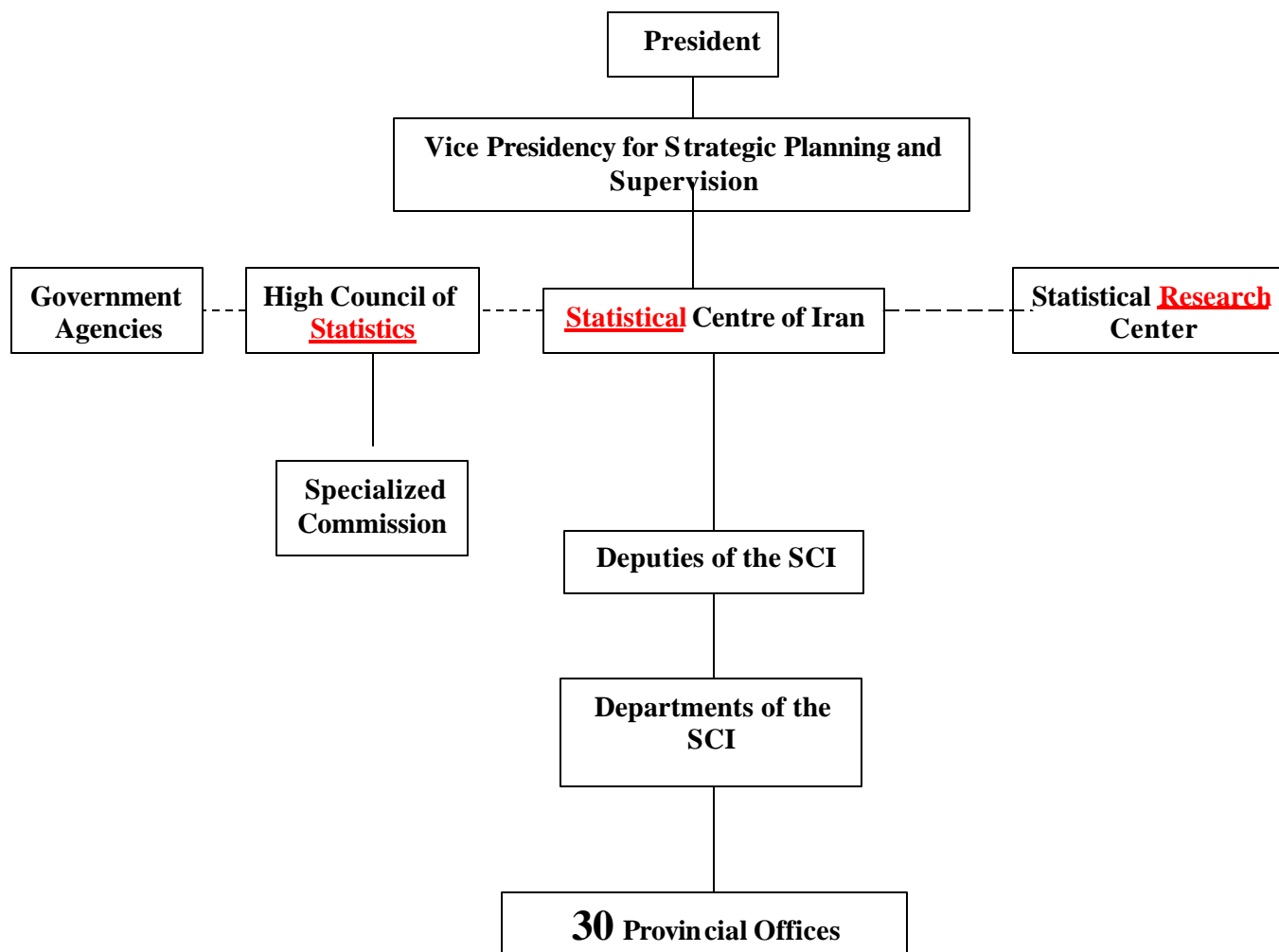
GDP by Economic Sectors^a,2005 (%)



National Statistical System of Iran (NSS)

- The Statistical Centre of Iran (SCI) is the most important statistical producer of the country and based on the revised **1974** Law is responsible for formulating and adopting statistical policies, definitions and concepts. In addition , stratification and production of statistics through the implementation of censuses and sample surveys and evaluation and confirmation of statistics produced by other organizations are other tasks of the SCI.
- The SCI is affiliated to the Vice Presidency for Strategic Planning and Supervision (VSPSPS). By law the statistical system of Iran is illustrated by the following chart. The head of the SCI is Deputy for VSPSPS.
- A part of SCI's **1974** law is allocated to the High Council of Statistics and its duties. The Council is headed by the Head of the VSPSPS and the SCI is the secretariat of it . The Council is also composed of representatives of other main statistics producing organization and Central Bank of I.R. Iran. The mission of the High Council of Statistics includes determination of national statistics plan and strategies and manner of distribution of statistical activities among responsible organizations.

Organizational Chart of the National Statistical System



Main duties of the SCI

- Implementation of demographic, economic, and social censuses and sample surveys and dissemination of results;
- Provision of statistical data to meet national development planning requirements;
- Provision of technical advice to the statistical departments of ministries, government agencies and/or government affiliated bodies, state-owned companies, and – whenever possible – to private sector agencies;
- Preparation and compilation of standards, methods, and regulations for statistical data production and dissemination;
- Implementation of scientific studies and researches on official statistics and related issues for quality improvement of the SCI's performance; and
- Compilation of required statistical data obtained from public and private sectors and centralized documentation of administrative records.

High Council of Statistics (HCS)

- The HCS is composed of deputies for planning of **10** Ministries and Central Bank. Head of the vice present is Head of the HCS and its secretary is the Head of the SCI

Energy statistics

Energy is one of the most important factor for achieving the interrelated economic / social an environmental goals toward sustainable development in each country. Energy statistics on supply, trade, transformation and demand are indeed the basis for any sound energy policy decision.

In view of the role and importance of energy statistics in the countries development, the basic energy information to be ready available and reliable.

Main fields of energy statistics in Iran are as follows :

- 1- Oil
- 2- Gas
- 3- Electricity
- 4- Solid fuels
- 5- Renewable energy
- 6- Energy & Environment

Iran is the second main oil producer in the Persian Gulf region, having the world's third largest proven oil reserves and the second largest proven reserves of gas. Crude oil production capacity has recently been falling below 4 million b/d, but reinjection of natural gas has increased the output in the country's maturing fields. The capacity as of September 2008 is 4.1 mb/d.

Iran is a vocal OPEC member and the fourth biggest oil exporter in the world, exporting 2.4 mb/d. Europe and Asian countries, notably China, India and Japan, are the main Iranian oil export markets. We also Iran plans to boost the production of natural gas and LNG, having recently signed several export deals with Asian, European and neighboring countries. The development within the sector has nevertheless been slow for several reasons.

The domestic consumption of gas is suspected to increase rapidly over the next decade. The country has plans to double the electricity generating capacity, re-inject large volumes of gas in the oil fields, and to incrementally replace gasoline fuel with gas.

Fuels in Iran are heavily subsidized. Due to a lack of refinery capacity, importation of gasoline and other fuels makes a heavy burden on the governmental budgets.

Main producers of Iran's energy statistics

Major Iranian organization engaged in production of energy and its statistics :

- Ministry of petroleum including four main Companies:
 - 1- National Iranian Oil Company
 - 2- National Iranian Oil Refining & Distribution Company
 - 3- National Iranian Petrochemical Company
 - 4- National Iranian Gas Company
- Ministry of Energy including water, electricity and energy sections
- Iran Power Generation Transmission & Distribution Management Company
- New energies organization of Iran (SANA)
- Atomic energy organization of Iran
- Statistical centre of Iran

Energy statistics sources

Different countries, according to their territory , geographical and cultural conditions and also the level of accessing to resources of energy, use different energy resources, various energy resources are utilized in Iran as well so it is very important to have for Iran statistics of its energy production and consumption.

It mentioned energy resources in Iran are very divers and we intend to make comprehensive the statistics on following resources:

crude oil , coal , gasoline, renewable energy sources, wind, solar energy, nuclear energy, noncommercial fuels and geothermal energy.

Methods of producing energy Statistics

Most of energy statistics in Iran are collected and produced administrative register recorded statistics methods. Those statistics are collected by concerned parts of the mentioned organizations such as oil refineries, gas refineries, electricity power plants gas and liquefied gas factories. After processing and confirming the data will be available for statistics users in the form of periodical, CDs. Produced Energy statistics are also presented in those organizations websites.

Energy statistics are collected through statistical surveys and censuses in addition to collecting data from administrative register. After specifying statistical items, which are necessary for statistical surveys, they will be questioned from statistical units by means of questionnaires. Statistical Centre of Iran's surveys plans are carried out monthly, seasonal or annual basis at province or national levels.

Some energy statistics item like energy carriers consumption are produced from different sectors such as manufacturing, mine, agriculture, construction, trade & services, during these periods. In national population and housing censuses as well as household expenditure and income surveys, which are carried out by Statistical Centre of Iran, household's consumption expenditure is questioned in different parts like: different fuels used for cooking by the households and gasoline and energy carriers consumed by them. Such as Solid Fuel and Energy Intensity which are related to energy sector the MDG Indicators are calculated by using this information.

In SCI's manufacturing establishment surveys, the volume and value of the consumed energy carries are questioned.

Resulted statistics are used for providing national accounts and also to publish the results in publications for energy statistics users.

Scope of energy statistics

Statistical items and indices are produced and disseminated by the relevant organization who need those statistics. Those items and statistics are used by Ministry of Energy for energy balance. The SCI also published them in its Statistical Yearbook.

Some of items and indexes is:

- Energy Intensity
- Primary energy
- Final energy
- Import & export statistics
- Production and Consumption of crude oil, gasoline, coal, gasoil, kerosene etc.

These items are produced the household, trade, manufacturing and mining, transportation and agriculture sections.

Time period and geographical coverage of energy statistics

Energy Statistics for some items are disseminated in annual periods and for some others in monthly basis.

Energy statistics in a national scale are produced by Iranian statistical producers, Although sometimes they are produced in provinces in provincial level as well.

The statistical information sometimes is published based on the users requirements . Because of some changes in administrative divisions, it is not possible to prepare time series of energy statistics at provincial level. However some concepts and definitions are not applicable to our country such as fuels of Foreign ships in state/ province level and they can be produced just in country level.

Energy Statistics Classification in Use

Utilizing the international classification in designing statistical questionnaires, which should be applied by all UN members states based on the recommendations of Statistics Committee of the United Nations (article 9) is very useful in order to harmonize and standardize the obtained information and it could make the resulted statistics comparable in an international scale.

The other benefit of the classifications is that we can sort them in a way which makes their processing and analyzing easier, Recommended classifications by OECD, EUROSTAT, IEA, are used by the SCI for collecting energy statistics and preparing energy balance.

Measuring unit at energy statistics

In dissemination of energy statistics, the measurement and conversion units recommended by the IEA are used, However, in some cases we use other local measurement units which are applied by Iranian statistics producing organizations.

Energy Balance

The background of preparing and producing energy balance in Iran by Ministry of Energy dates back to 20 years ago and it is about two years that hydrocarbon balance is also produced by The International Energy Researches Organization of the Ministry of Petroleum.

In order prepare the energy balance, we use the information which is collected by different organization such as Tavanir Company, Water resources management, Iran's New Energies Organization, Iran's gas company, ministry of industries and mines, and also the results of the surveys conducted by the Statistical Center of Iran, like Household Income and Expenditure Survey and Independent Industrial Electricity Generators Survey.

In order to prepare the energy balance, we use the above mentioned classifications.

Main publications on Energy Statistics :

In addition to the above mentioned balances , publications such as *Energy in Iran* and *Statistical and Energy Graphs of Iran and the World*, are the main periodicals on energy Statistics in Iran. Furthermore , other organizations in energy field, publish their own publications on energy statistics .

Major applications of energy statistics :

- Preparing energy balance
- Preparing development plans
- Preparing input/output tables
- Calculation of **national accounts**

The main users of energy statistics in Iran are

- National Policy makers and legislators
- Executive organizations
- Statistical Centre of Iran
- Research centers
- Private companies
- Researcher such as university professors and students

The main activities on energy statistics

Statistical Center of Iran has developed and carried out **National Strategy for the Development of Statistics (NSDS)** in recent years (from 2005 to 2009). The second NSDS is also under process for 2010 to 2015.

In the NSDS, administrative registers has gained a high degree of priority. In this line, all executive bodies are bound to organize information-operation systems to collect and process relevant statistics and subsequently submit the resulted data to the National Statistical Database.

These systems are set up under supervision of Statistical Center of Iran to be ratified by the High Council of Statistics. With regard to the nature of energy statistics which are considered mainly as administrative registers, during the recent years implementation of such systems have been followed up by the SCI particularly in case of the information – operation systems of the Ministry of Energy and The Ministry of Petroleum. Information- operation system in Tavanir Company (affiliated to Ministry of Energy) has been designed to collect electricity consumption by electrical customers, tariffs of electrical prices etc. and currently is active.

One of the efficient and unique systems in the World is devoped in Iran for distributing gasoline by means of a smart cards. This system not only controls distribution and consumption systematically , but also it is able to produce the pertinent administrative register in online manner.

Another information system, is System for Collecting Data for Iran Statistical Yearbook

Statistical Centre of Iran maintains a close cooperation with international organizations such as UNSD,IEA,ESCAP and ECO and regularly fills out and sends them back the questionnaires to the relevant organizations.

Constraints and Challenges :

- Lack of proper attention to energy statistics at managerial levels.
- Lack of centralization and integrity in production of energy statistics
- Differences in methods of data collection among organizations producing energy statistics.
- Lack of energy statistics in the provincial levels due to differences in coverage and classifications in use .
- Budget cut and shortage of skilled experts with experience on energy statistics.
- Lack of proper controls on production of energy statistics.
- Differences in definitions and concepts applied for energy statistics.
- Parallel activities in statistical units of concerned organization .
- Production of two balance on energy by two different organization.

Suggestions

- Formation of a work group of experts of state members of Economic Cooperation Organization and other countries in the region .
- Conducting training courses on methodologies for producing energy statistics.
- Formation of local and regional organization to supervise the production of energy statistics and energy balance in countries.
- Coordinating and harmonizing of data sources, statistical units and the definitions and concepts used by different international organizations.
- Promotion of cooperation and expansion of relations among international organizations for improving the quality of energy statistics.