E/ESCAP/CST(2)/INF/20

Distr.: For participants only
8 December 2010

English only

Economic and Social Commission for Asia and the Pacific
Committee on Statistics

Second session
Bangkok, 15-17 December 2010
Item 6 (e) of the provisional agenda
Items for information: **Information and Communication Technology Statistics**

Information and Communication Technology Statistics[1]

Summary

The collection of information and communication technology (ICT) statistics has gained increased attention over the past decade, following the rapid diffusion of ICTs globally and the wide recognition of ICTs as a development enabler. Measuring ICT uptake has also become important in view of the need to monitor progress towards the goals and objectives agreed upon at the World Summit on the Information Society. ITU, as the leading United Nations agency on ICTs, is an active player in the international statistical system in terms of collecting and disseminating comparable ICT statistics and promoting relevant international standards. It works in close cooperation with, and is an active member of, the Partnership on Measuring ICT for Development. Although the Asia and the Pacific region is a leader when it comes to ICT production and uptake, not enough emphasis has been given at the regional level to advance harmonized and comparable ICT statistics, whereas other regions have been more active during the past years. As a result, there are considerable gaps in the availability of comparable ICT data in the region. This document therefore proposes that ICT statistics be one of the areas that the ESCAP Committee on Statistics should consider in its future work.

[1] This document was contributed by the International Telecommunication Union (ITU). It has been reproduced without formal editing. The views expressed are those of the author and do not necessarily reflect the views of the United Nations.

I. Introduction

1. Information and communication technology (ICT) is a relatively recent topic in the official statistical system, particularly in developing countries.[2] Especially with the mobile telephone boom and the growth of the Internet over the past decade, as well as the growing recognition that ICTs are a driver for social development and economic growth, there is a need for reliable, comprehensive and comparable statistics to support government and industry decisions. Indicators are particularly needed on ICT infrastructure and access, on ICT use by individuals, businesses, governments and other institutions, as well as on ICT production and services and ICT investments.

2. Supply side statistics on telecommunication services have been collected for a long time, based on administrative records from telecommunication service providers. At the global level, the International Telecommunication Union (ITU) has been collecting, harmonizing and disseminating telecommunication statistics for over 50 years. Since the late 1990s, these have been adjusted and expanded as a result of new technological developments and to incorporate an increasing number of indicators related to ICT infrastructure, access and use, collected from both administrative sources as well as from surveys carried out by national statistical offices (NSOs). In 2004, the *Partnership on Measuring ICT for Development* was launched, with the objective to enhance the availability of internationally comparable ICT indicators and to coordinate activities among its members, which include regional and international organizations working in the area of ICT measurement.

3. As a result, during the past few years, considerable progress has been made to improve global ICT statistics. At the regional level, numerous workshops and trainings have been organized by members of the *Partnership* to raise awareness among policy makers and statisticians about the importance of ICT measurement, and to enhance technical capacities in the field. This was reinforced through the regional members of the *Partnership*, which are the UN Regional Commissions.

4. In the Asia and the Pacific region, ITU, the United Nations Conference on Trade and Development (UNCTAD), as well as various regional partners have organized several workshops on ICT measurement during the past five years.[3] The region, which is a major international player when it comes to ICT production, trade and diffusion, has a strong policy demand for reliable and comparable data on ICT access, use and impact. At the same time, little attention has been given to the subject from the side of the official statistical community, for example, when it comes to identifying key indicators and harmonizing the data across the region. The re-launching of the ESCAP Committee on Statistics therefore provides a unique opportunity for statisticians in the region to discuss relevant ICT statistical issues and to improve the data availability in the region.

5. The following sections will first present a summary of ITU's work on ICT statistics; then the main achievements of the *Partnership on*

[2] The OECD member countries, through the OECD Working Party on Indicators for the Information Society (WPIIS), have been working towards developing harmonized ICT indicators since the mid 1990s.

[3] More information on events organized by ITU and its partners are available at http://www.itu.int/ITU-D/ict/events/.

Measuring ICT for Development will be presented. This is followed by a reflection on the status of ICT statistics in the Asia and the Pacific region and suggestions on how to improve it.

II. ITU's statistical work

6. ITU is the leading United Nations (UN) agency for ICT issues, and the global focal point for governments and the private sector in developing ICT networks and services. Within the ITU Telecommunication Development Bureau (BDT), the Market Information and Statistics Division is responsible for collecting, harmonizing and disseminating more than 100 statistical indicators from over 200 economies worldwide. This is in line with other specialized agencies that produce statistics covering their respective field of operations and forms part of the global statistical system of the UN. The data are maintained in the ITU World Telecommunication/ICT Indicators (WTI) database, which includes time series dating back to 1960.

7. There are three key sets of statistics that ITU collects directly from countries:

- Statistics on telecommunication/ICT infrastructure and access are collected annually through two questionnaires sent to ICT ministries and telecommunication regulatory authorities; these include indicators on the fixed telephone network, mobile cellular services, Internet/broadband, traffic, revenues and investment;

- Statistics on household ICT access and individual ICT use are collected annually through a questionnaire sent to NSOs; these include the core ICT indicators developed by the *Partnership on Measuring ICT for Development*;

- Statistics on the price/tariff of telecommunication/ICT services are collected annually through a questionnaire sent to ICT ministries and telecommunication regulatory authorities; these include prices on fixed telephony, mobile cellular telephony and fixed (wired) broadband Internet services.

8. ITU verifies and harmonizes the data received from countries and complements the data collection by searching government websites and operators' annual reports, particularly for countries that do not reply to the questionnaires. In some cases, market research data are also used to cross-check and complement missing data.

9. The data are maintained in, and disseminated through, the ITU WTI database. Other dissemination channels include the ITU website statistical portal "ICT Eye", printed publications such as the ITU *Yearbook of Statistics*, CD-ROM, and via electronic download. ITU statistics also serve as an input to publications and databases produced by other international organisations, such as the MDG progress reports, UN Data, publications by the *Partnership on Measuring ICT for Development*, the World Bank World Development Indicators and the United Nations Statistical Yearbook.

10. Other ITU core statistical activities include:

- **Developing international standards and methodologies on ICT statistics**, in close cooperation with other regional and international organisations and bodies, including the UN, Eurostat, OECD, and the members of the *Partnership on Measuring ICT for Development*. The *ITU Handbook* on the collection of administrative ICT data includes definitions and methodological guidelines for more than 100 indicators and serves as a basis for Ministries, regulators and operators to produce national telecommunication/ICT statistics based on international standards. The ITU *Manual for Measuring ICT Access and Use by Households and Individuals* guides countries in preparing household ICT surveys, and covers all necessary statistical standards and measurement topics. The Manual is based on the core list of ICT indicators agreed under the framework of the *Partnership on Measuring ICT for Development* (see below).

- **Analyzing telecommunication/ICT trends and producing regional and global research reports**, such as the *Measuring the Information Society Report* and the *World Telecommunication/ICT Development Report*. This includes the benchmarking of ICT developments and monitoring the magnitude of the digital divide through tools such as the ICT Development Index (IDI) and the ICT Price Basket;

- **Organising meetings and events, including the annual World Telecommunication/ICT Indicators Meeting (WTIM)**. The WTIM is the major international forum to discuss the latest developments in ICT statistics and is open to participants from ICT ministries, telecommunication service providers, regulators, NSOs, as well as data producers and users from the private sector, academia and international organisations;

- **Providing capacity building and technical assistance to Member States** in the area of ICT measurement through technical workshops, training courses and hands-on manuals. The ITU *Manual for Measuring ICT Access and Use by Households and Individuals* serves as the basis for ITU's training course on measuring ICT access and use by households and individuals. The one-week training course is designed for staff of NSOs and other national institutions in charge of the production of official statistics on the information society from countries around the world.

- **International cooperation**. ITU is a founding member of the *Partnership on Measuring ICT for Development*, a member of its Steering Committee and leader of the Task Group on measuring the WSIS targets. ITU is also a member of the Committee for the Coordination of Statistical Activities among international organizations (CCSA) and a member of the Inter-Agency expert group on MDG indicators (helping to track goal 8 target 18F). ITU is an active data provider to UN Data, an internet-based data service for the global user community launched by the United Nations Statistics Division (UNSD).

III. Partnership on Measuring ICT for Development[4]

11. The *Partnership on Measuring ICT for Development* was launched in June 2004, following the Geneva phase of the World Summit on the Information Society (WSIS) in 2003, which highlighted the importance of benchmarking and measuring progress towards the information society using internationally comparable statistics. Its current members are Eurostat, the ITU, the Organisation for Economic Co-operation and Development (OECD), UNCTAD, the United Nations Department of Economic and Social Affairs (UNDESA), the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (UIS), the World Bank, and four United Nations Regional Commissions (the UN Economic Commission for Africa - ECA, the UN Economic Commission for Latin America and the Caribbean - ECLAC, the UN Economic and Social Commission for Asia and the Pacific - ESCAP, and the UN Economic and Social Commission for Western Asia - ESCWA).

12. Following the Geneva phase of WSIS, members of the Partnership started to work with statistical agencies and policy-makers to develop an agreed 'core list' of indicators for measuring ICT. A number of regional meetings on ICT measurement were held and ICT indicators of interest to policy-makers were discussed. The Partnership consolidated a global core list and circulated it for comments. A final list was agreed on at the WSIS Thematic Meeting on Measuring the Information Society, held in Geneva in February 2005.

13. The core list, published as Core ICT Indicators in 2005, was officially launched at the second phase of WSIS, held in Tunis in November 2005. Since then, it has served as the basis for the Partnership's work on measuring ICT. The Tunis outcome documents re-iterated the importance of measurement and called for the tracking of progress in the use of ICT to achieve internationally agreed goals. The efforts of the Partnership and its core list of indicators were referred to in the Tunis Agenda.

14. The 2005 core list included 41 core ICT indicators covering, ICT infrastructure and access; access to, and use of, ICT by households and individuals; use of ICT by businesses; the ICT sector; and trade in ICT goods. The main purpose of the core list is to help countries that collect (or are planning to collect) ICT statistics to produce high quality and internationally comparable data. In order to achieve this, the indicators have associated statistical standards and metadata.

15. The list was endorsed in 2007 by the UN Statistical Commission at its 38th session. The Commission encouraged countries to use the core list in their data collection programmes.[5] The Commission further recognized that ICT is a rapidly evolving area and encouraged the Partnership to continue work to improve and update the list of indicators. In 2008, the United Nations Economic and Social Council recommended that the Partnership consider the creation of additional benchmarks and indicators in order to track progress towards the achievement of WSIS goals.

[4] The text featured in this section is based on Partnership on Measuring ICT for Development (2010). "Core ICT Indicators 2010", Geneva: ITU.

[5] United Nations Statistical Commission (2007). "Report on the thirty-eighth session (27 February to 2 March 2007)", E/2007/24 and E/CN.3/2007/30, New York.

16. Revisions and additions to the core list were subsequently presented as an "item for information" to the UN Statistical Commission's 2009 meeting and noted by members.[6] An important improvement to the first core list was the addition of eight new indicators on measuring ICT in education developed by UIS. Annex 1 details the 56 indicators that are included in the latest (2010) version of the core list.

17. The *Partnership* and its members are continuously improving the core list, in consultation with member countries, based on data collection experiences, and in view of technological changes. They are also extending the list and are currently finalizing a set of indicators on measuring e-government, which will be presented to the UN Statistical Commission in 2012.

18. The *Partnership* is involved in a number of other activities that support its mission of achieving internationally comparable and reliable ICT statistics. They include the compilation and dissemination of ICT data, and the provision of technical assistance to enable statistical agencies to collect the data that underlie the core indicators.[7]

IV. ICT statistics in ESCAP member states and other regions

19. During the past two decades, Asia and the Pacific has been one of the most dynamic regions when it comes to developments in the ICT sector. The region is the largest producer of ICT goods and services and is home to the top countries in terms of high-speed broadband Internet. The two largest countries in the region, China and India, have been benefiting from strong economic growth, partly due to their ICT industries. Policy makers in the region have therefore given high importance to the development of ICTs as an enabler of growth, which has been reinforced at the recent meeting of the ESCAP Committee on ICT where "Governments in the Asia-Pacific region have agreed to put in place a framework for regional connectivity that harnesses the rapid developments in mobile services and enhances broadband access for all in the region as a means for development."[8]

20. The active regional engagement on the ICT policy side has not been matched by actions from the statistical community to improve comparable ICT statistics at the regional level. As a result, ICT data availability is limited, even on basic indicators such as access to ICTs by households and use of ICTs by individuals and businesses.

21. Annex 2 illustrates the availability of the core indicators on household ICT access and individual ICT use in 2008 and/or 2009. It shows that the indicators with the highest availability among ESCAP member countries are households with computers (HH4) and households with Internet access (HH6) (available in 39.7% and 34.5%, respectively, of all countries). Some of the most relevant indicators for policy making, i.e. Internet users (HH7), mobile phone users (HH10) and individuals using computers (HH5) are only available in 24%, 12% and 10% of ESCAP

[6] United Nations Statistical Commission (2009). "Report on the fortieth session (24 to 27 February 2009)", E/CN.3/2009/29, New York.

[7] More information about the Partnership is available at http://www.itu.int/ITU-D/ict/partnership/index.html.

[8] ESCAP Press release No: G/62/2010, 26 November 2010.

member countries, respectively. Only five countries report at least 80% of the core indicators: Azerbaijan, Japan, the Republic of Korea, Singapore and Thailand. On the other end of the scale, 39 countries (including most of the Pacific island states) did not report any of the indicators during the past two years.[9] To summarize, the availability of comparable indicators on basic household ICT access and individual ICT use is extremely limited in the region. The situation is even worse when it comes to other indicators, such as ICT use in businesses or ICT in education.[10] Basic indicators on telecommunication/ICT infrastructure and access based on administrative sources are more widely available since they do not involve conducting surveys and can be collected from operators' websites.

22. In comparison, in 2005, the Statistical Conference of the Americas of the Economic Commission for Latin America and the Caribbean (ECLAC) created a Working Group on ICT, with the objective to contribute to the development and dissemination of statistics and indicators relating to ICT and their comparability at the regional level through the sharing of national experiences and harmonization of methodologies.[11] Since its creation, the group has coordinated all its activities with the Observatory for the Information Society in Latin America and the Caribbean (OSILAC), which has enabled it to share experiences on measuring access to and use of ICT in the region. The group has also served as a forum for discussing and disseminating the methodological issues and indicators proposed by the *Partnership on Measuring ICT for Development* by fostering the implementation and harmonization of statistics on ICT in the region and facilitating the development by ECLAC of a regional database on ICT statistics.[12]

23. The ECLAC Working Group on ICT statistics, which is coordinated by the representative of the NSO of the Dominican Republic, meets regularly and has engaged in a number of activities, including the organization of regional workshops, the development of methodological material, a compendium of practices. The work is carried out in close coordination with the *Partnership*. The group reports regularly on progress made to the Statistical Conference of the Americas.

24. The results of the Working Group have been impressive so far. As of 2009, 70% of the ECLAC member countries have included questions on access to radio, television, telephones, computers and the Internet in their household surveys. In these cases, the available information allows for a calculation of all the households ICT access indicators recommended by the *Partnership* and collected by ITU at the international level. Regarding ICT use by individuals, 45% of ECLAC member countries have incorporated questions for measuring Internet use, requesting details such as place of

[9] The two indicators "Household access to radio (HH1)" and "household access to TV (HH2)" are likely to be more widely available than reflected in the Annex table, but have not been reported to ITU in its annual questionnaire.

[10] The availability of other Partnership core indicators are not shown in this document but can be provided by UNCTAD, for the core indicators on use of ICT in business (B1-B12), and by UIS, for ICTs in education (ED1-ED8).

[11] ECLAC (2009): Report of activities of the Working Group on Information and Communications technologies to the Fifth Meeting of the Statistical Conference of the Americas of the Economic Commission for Latin America and the Caribbean. LC/L.3064(CEA.5/9).

[12] http://www.eclac.cl/tic/flash/default.asp?idioma=IN

access and purpose and frequency of use. Finally, with respect to business surveys, between 25% and 30% of the countries have included questions on ICT.

V. Issues for consideration by ESCAP member states

25. In view of the above described developments of ICT statistics globally and in the ESCAP member countries specifically, and considering the successful work of the ECLAC Working Group on ICT statistics, it is recommended that the ESCAP Committee on Statistics consider the following:

- Identifying ICT statistics as one of the items that should be further discussed in order to increase the availability of ICT indicators in the region and to harmonize them. This will provide policy makers with improved evidence on ICT developments, to develop effective policies on the ICT sector and the information society.

- Establishing a working group on ICT statistics that will report to the Committee on a regular basis on progress made.

- Including ICT statistics in national statistical strategies and master plans. This will accelerate the production of ICT statistics needed for a review of progress in the implementation of the WSIS targets and the MDGs by 2015.

- Harmonizing methodologies for ICT measurement based on international standards developed by ITU and the *Partnership on Measuring ICT for Development* to ensure international comparability of data.

Annex 1

Partnership on Measuring ICT for Development - Core List of 56 ICT Indicators[13]

A1 Fixed telephone lines per 100 inhabitants

A2 Mobile cellular telephone subscriptions per 100 inhabitants

A3 Fixed Internet subscribers per 100 inhabitants

A4 Fixed broadband Internet subscribers per 100 inhabitants

A5 Mobile broadband subscriptions per 100 inhabitants

A6 International Internet bandwidth per inhabitant (bits/second/inhabitant)

A7 Percentage of the population covered by a mobile cellular telephone network

A8 Fixed broadband Internet access tariffs per month in US$, and as a percentage of monthly per capita income

A9 Mobile cellular telephone prepaid tariffs per month in US$, and as a percentage of monthly per capita income

A10 Percentage of localities with public Internet access centres (PIACs)

HH1 Proportion of households with a radio

HH2 Proportion of households with a TV

HH3 Proportion of households with telephone

HH4 Proportion of households with a computer

HH5 Proportion of individuals who used a computer in the last 12 months

HH6 Proportion of households with Internet access

HH7 Proportion of individuals who used the Internet in the last 12 months

HH8 Location of individual use of the Internet in the last 12 months

HH9 Internet activities undertaken by individuals in the last 12 months

HH10 Proportion of individuals who used a mobile cellular telephone in the last 12 months

HH11 Proportion of households with access to the Internet by type of access

HH12 Frequency of individual use of the Internet in the last 12 months

B1 Proportion of businesses using computer

B2 Proportion of persons employed routinely using computer

B3 Proportion of businesses using the Interne

B4 Proportion of persons employed routinely using the Internet

[13] Partnership on Measuring ICT for Development (2010). “Core ICT Indicators 2010”, Geneva: ITU.

B5 Proportion of businesses with a web presence

B6 Proportion of businesses with an intranet

B7 Proportion of businesses receiving orders over the Internet

B8 Proportion of businesses placing orders over the Internet

B9 Proportion of businesses using the Internet by type of access

B10 Proportion of businesses with a local area network (LAN)

B11 Proportion of businesses with an extranet

B12 Proportion of businesses using the Internet by type of activity

ICT1 Proportion of total business sector workforce involved in the ICT sector

ICT2 ICT sector share of gross value added

ICT3 ICT goods imports as a percentage of total imports

ICT4 ICT goods exports as a percentage of total export

ED1 Proportion of schools with a radio used for educational purposes

ED2 Proportion of schools with a television used for educational purposes

ED3 Proportion of schools with a telephone communication facility

ED4 Learners-to-computer ratio in schools with computer-assisted instruction

ED5 Proportion of schools with Internet access by type of access

ED6 Proportion of learners who have access to the Internet at school

ED7 Proportion of learners enrolled at the post-secondary level in ICT-related fields

ED8 Proportion of ICT-qualified teachers in schools

Annex 2

Availability of core indicators on household access to ICTs and individual ICT use, ESCAP member countries, 2008-2009 (as reported to ITU)

	Households with							Individuals			Location of individual use of the Internet	Internet activities undertaken by individuals	Frequency of individual use of the Internet	Total indicators available	% of indicators available
Country	Radio HH1	TV HH2	Fixed telephone HH3a	Mobile cellular telephone HH3b	Computer HH4	Internet access at home HH6	Access to the Internet by type of access (narrowband, broadband) HH11	Who used a computer HH5	Who used the Internet HH7	With use of a mobile cellular telephone HH10	HH8	HH9	HH12		
Afghanistan														**0**	**0**
American Samoa														**0**	**0**
Armenia	√	√	√	√	√	√								**6**	**46.2**
Australia					√	√	√		√		√	√	√	**7**	**53.8**
Azerbaijan	√	√	√	√	√	√	√		√		√	√	√	**11**	**84.6**
Bangladesh														**0**	**0**
Bhutan	√	√	√	√	√	√	√							**7**	**53.8**
Brunei Darussalam														**0**	**0**
Cambodia	√	√	√	√	√	√								**6**	**46.2**
China														**0**	**0**
Cook Islands														**0**	**0**
D.P.R. Korea														**0**	**0**
Fiji														**0**	**0**
French Polynesia														**0**	**0**
Georgia	√	√	√		√									**4**	**30.8**

	Households with							Individuals							
Country	Radio	TV	Fixed telephone	Mobile cellular telephone	Computer	Internet access at home	Access to the Internet by type of access (narrowband, broadband)	Who used a computer	Who used the Internet	With use of a mobile cellular telephone	Location of individual use of the Internet	Internet activities undertaken by individuals	Frequency of individual use of the Internet	Total indicators available	% of indicators available
	HH1	HH2	HH3a	HH3b	HH4	HH6	HH11	HH5	HH7	HH10	HH8	HH9	HH12		
Guam														0	0
Hong Kong, China					√	√	√		√	√	√	√	√	8	61.5
India														0	0
Indonesia			√	√	√	√			√	√	√			7	53.8
Iran (I.R.)		√			√	√			√					4	30.8
Japan		√	√	√	√	√	√	√	√	√	√	√	√	12	92.3
Kazakhstan					√	√	√	√	√		√	√		7	53.8
Kiribati														0	0
Korea (Rep.)			√	√	√	√	√	√	√	√	√	√	√	11	84.6
Kyrgyzstan														0	0
Lao P.D.R.														0	0
Macao, China					√	√	√		√		√	√	√	7	53.8
Malaysia					√	√	√							3	23.1
Maldives														0	0
Marshall Islands														0	0
Micronesia														0	0
Mongolia		√			√	√								3	23.1
Myanmar														0	0

	Households with							Individuals							
Country	Radio HH1	TV HH2	Fixed telephone HH3a	Mobile cellular telephone HH3b	Computer HH4	Internet access at home HH6	Access to the Internet by type of access (narrowband, broadband) HH11	Who used a computer HH5	Who used the Internet HH7	With use of a mobile cellular telephone HH10	Location of individual use of the Internet HH8	Internet activities undertaken by individuals HH9	Frequency of individual use of the Internet HH12	Total indicators available	% of indicators available
Nauru														**0**	**0**
Nepal	√	√	√	√	√									**5**	**38.5**
New Caledonia														**0**	**0**
New Zealand		√			√	√	√		√	√	√	√	√	**9**	**69.2**
Niue														**0**	**0**
Northern Marianas														**0**	**0**
Pakistan														**0**	**0**
Palau														**0**	**0**
Papua New Guinea														**0**	**0**
Philippines	√	√	√	√	√									**5**	**38.5**
Russia		√			√	√		√	√					**5**	**38.5**
Samoa														**0**	**0**
Singapore			√	√	√	√	√	√	√	√	√	√	√	**11**	**84.6**
Solomon Islands														**0**	**0**
Sri Lanka														**0**	**0**
Tajikistan														**0**	**0**
Thailand	√	√	√	√	√	√	√	√	√	√	√	√	√	**13**	**100**
Timor-Leste														**0**	**0**
															13

	Households with							Individuals							
Country	Radio	TV	Fixed telephone	Mobile cellular telephone	Computer	Internet access at home	Access to the Internet by type of access (narrowband, broadband)	Who used a computer	Who used the Internet	With use of a mobile cellular telephone	Location of individual use of the Internet	Internet activities undertaken by individuals	Frequency of individual use of the Internet	Total indicators available	% of indicators available
	HH1	HH2	HH3a	HH3b	HH4	HH6	HH11	HH5	HH7	HH10	HH8	HH9	HH12		
Tonga														0	0
Turkey			√	√	√	√	√		√		√	√	√	9	69.2
Turkmenistan														0	0
Tuvalu														0	0
Uzbekistan														0	0
Vanuatu														0	0
Viet Nam		√	√		√	√								4	30.8
Total of countries	**8**	**14**	**14**	**12**	**23**	**20**	**13**	**6**	**14**	**7**	**12**	**11**	**10**		
% of countries with information available	**13.8**	**24.1**	**24.1**	**20.7**	**39.7**	**34.5**	**22.4**	**10.3**	**24.1**	**12.1**	**20.7**	**19**	**17.2**		