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## National Assessments on Gender Equality in the Knowledge Society Key Findings

Given the gendered barriers women face — challenges and roles that determine their ability to participate on an equal basis with men — the gender divide in the knowledge society cannot be expected to improve automatically with economic growth. Rather, gaps in access to resources, opportunities, rights, education, and financing, as well as S&T, will deprive countries of women's experience, creativity and abilities. This will diminish the potential of a country to achieve progress, reduce poverty, and improve the quality of life of all citizens. It also poses a waste of the resources invested by countries in the education and support of women and girls.

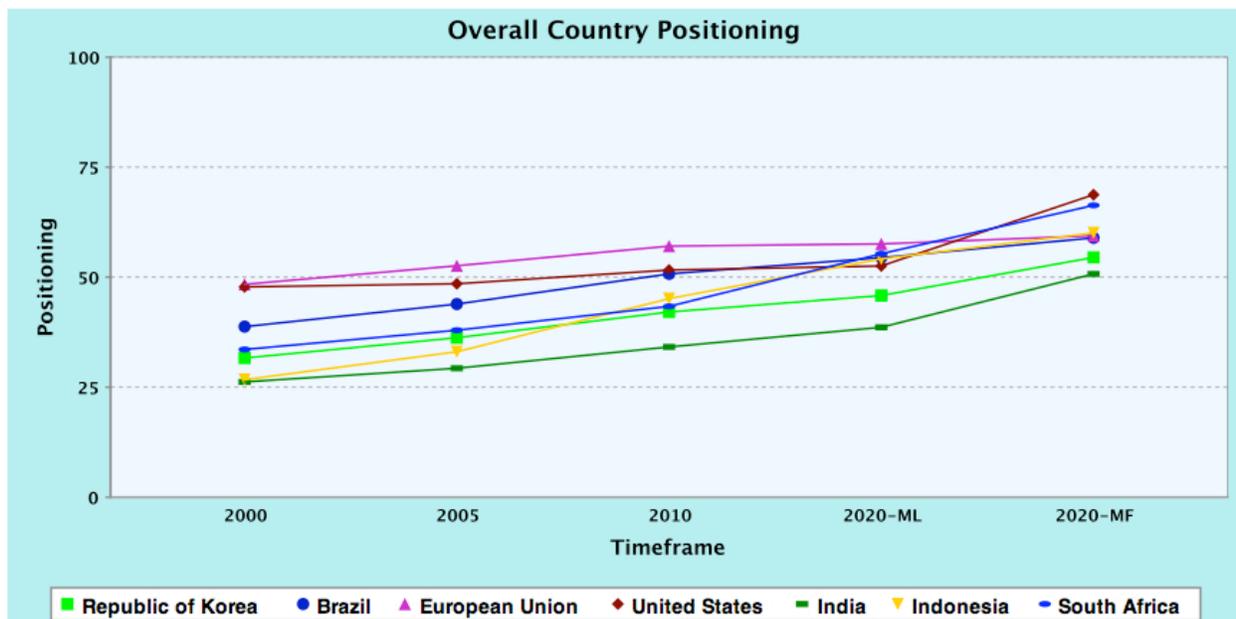
Preliminary results of this study are presented here from a pilot assessment of six countries and one region: Brazil, India, Indonesia, the Republic of Korea, South Africa, the United States, and the European Union. National researchers have analysed data available from national and international sources.

### Key findings:

- The major finding of this study is that the knowledge gender divide continues to exist in all countries, even those which have a highly-developed knowledge society: Women participate at much lower levels in knowledge society decision making and the knowledge economy than men. In the science and technology sector, only in the health and life sciences (education) are they represented equally with men, and only in some countries. In all countries, female representation in the science and technology workforce is lower than male. ***In all countries in this review – which represent the leading knowledge-based economies in the world – the knowledge society is failing to include women to an equal extent, and in some cases, their inclusion is negligible.***
- Numbers of women in the science, technology and innovation fields are alarmingly low in the world's leading economies, and are actually on the decline in many, including the United States.
- Women remain severely under-represented in the areas of engineering, physics and computer science — less than 30% in most countries. In addition, the numbers of women actually working in these fields are declining across the board. Even in countries where the numbers of women studying science and technology have increased, it has not translated into more women in the workplace.
- Women are demonstrated to have lower levels of access to the productive resources necessary to support active engagement in the knowledge society – property (land); financing; technology; and education.
- In turn their representation in employment, entrepreneurship and research is lower in key sectors of the knowledge society.
- Female parity in the science, technology and innovation fields is tied to multiple empowerment factors, with the most influential being higher economic status, larger roles in government and politics, access to economic, productive and technological resources and an enabling policy environment. Findings also show that women have greater parity in countries with government policies that support health and childcare, equal pay, and gender mainstreaming.
- The results show that access to education is not a solution in and of itself. It's only one part of what should be a multi-dimensional policymaking approach. There is no simple solution.
- Women in most of the most countries under study are experiencing inequality of opportunity.

- Most countries do not collect sex-disaggregated data consistently at the national and international levels. More data is necessary to inform the policies and programmes that will allow countries to profit from the underutilized potential of their female population.
  - Indonesia and India collect and make available the least sex-disaggregated data in all sectors, including but not restricted to STI.
  - Little or no consistent sex-disaggregated data is collected in many countries in important areas, such as business leadership, heads of universities and research institutes, skilled emigrants, publication of refereed articles rates of HIV/AIDS infection among female youth, and others.
- While women's enrollment in bio and health-related sciences is high in general, female representation drops dramatically in physics and engineering, and in the transition to the S&E workforce. All of these should be clear signals to policy makers for the need to address these consistent gaps in achievement.
- Women's low level of representation in decision-making and in formal enterprises in the private sector is a shocking gap, and in view of the share of women in informal enterprises worldwide, is a glaring inconsistency that needs to be addressed. This is particularly important when one factors in the contribution that women make to poverty eradication and food security at the local level and in informal enterprises.
- Brazil and South Korea may represent models for encouraging and retaining women in the science, engineering and technology workforce, but particularly in South Korea women's participation in other sectors of society, including decision-making and the private sector, are of great concern, indicating that economic and STI development that does not take into account women will in fact leave them behind.
- We also see that women in countries with low levels of health and/or social status are behind from the very beginning, leaving those countries with additional constraints to women's knowledge society participation that are very difficult to overcome. These can prevail despite an enabling policy environment. India and South Africa are cases in point.

## Overall findings



The **European Union** as a composite ranks first overall, and first or second in every dimension. This is a remarkable result, considering the wide variation among countries in the EU in terms of social support, GDP, and promotion of science, technology and innovation (STI).

The **United States** ranks second overall, but fifth in health, agency, social status. Its high status overall comes from its primary ranking in the opportunity and capability and the knowledge society decision-making dimensions – educational levels of women and positions in private sector and science decision-making levels. It comes in second in economic status and access to resources. The US ranks lowest in enabling policies. While it ranks higher in other sectors, this finding indicates that a more favourable policy environment for the US could be an important strategy towards addressing economic competitors in other parts of the world and a strategy for regenerating economic growth after the economic crisis of 2010.

**Brazil** ranks the highest of the remaining countries, coming in above even the Republic of Korea. It is third overall, first in women's participation in the knowledge economy and science, technology and innovation, as well as agency. It is second in health, opportunity and capability and enabling policy, and third in social status, economic status and access to resources. However its low ranking (4th) in knowledge society decision-making show where improvement needs to be made in addition to those areas where it ranks third. Brazil is an example of a country with both a highly enabling policy environment for women and effective implementation strategies.

**Indonesia** is fourth overall, with an enabling policy environment and fourth ranking in most sectors which reflect a steady improvement over the last decade<sup>1</sup>. Of the countries in this study, Indonesia collects the least sex-disaggregated data, with data not available for many of the indicators addressed here. Its positive enabling policy environment gives it a strong potential for improvement, however current levels of economic status, access to resources, agency, health and social status indicate a need to improve the actual status of women in the country.

**South Africa** ranks fifth overall but first in agency. It ranks highly also in knowledge society decision-making (2), third in social status, and fourth (although close to the higher ranked countries) in science, technology and innovation participation. This is likely a result of a strong educational

<sup>1</sup> Lack of data for many indicators means that Indonesia's ranking may change as more data and expert analysis are incorporated into the national assessment.

system, a policy focus on STI, as well as a quota system implemented in various sectors of society to promote diversity of participation by race and gender. Its high rate of HIV in the population puts it last in health, while it ranks fifth in access to resources.

**Republic of Korea** – While it ranks first in health it is last several sectors, including economic status, access to resources, enabling policy, knowledge economy and STI participation. It ranks second to last (sixth) overall. This reflects the situation that even though it ranks third in opportunity and capability it sees a low level of female participation in public and economic life in both public and private sectors. This shows the country has failed to adequately support its women to participate actively in its economic success. It also shows the lack of correlation between a country's GDP and gender equality.

**India** ranks the lowest overall and in most categories, except in economic status; knowledge economy, enabling policy; and health. While its enabling policy environment is very positive and has been in place for many years, implementation and funding needs to increase substantially before its women can equally benefit from its innovation advantage. There are definite signs of progress, though. It has achieved universal primary education enrollment for example. However, size of the population mitigates against a rate of change as rapid as a country such as Indonesia or Brazil.

## About the National Assessments

The Gender Equality Knowledge Society (GEKS) indicator framework was developed in response to the situation that women — particularly those in the developing world — find themselves on the wrong side of both the digital divide and the knowledge divide: worldwide their capacity is grossly under-developed and under-utilized. They are at risk of becoming increasingly marginalized in the knowledge society and related science, technology and innovation systems. Not only do they have less access to information and technology, they are poorly represented in the educational, entrepreneurship and employment opportunities in science, technology and innovation (STI) that base a knowledge society.

This will diminish the potential of a country to achieve progress, reduce poverty, and improve the quality of life of all citizens. From a rights perspective and as recognized in various international agreements including the MDGs, it is important to ensure that women have the access and the opportunity to design, create and develop the knowledge society that affects their lives.

National researchers have analysed data available from national and international sources. Preliminary results affirm that women have lower levels of access to the productive resources necessary to support active engagement in the knowledge society – property (land); financing; technology; and education. In turn their representation in employment, entrepreneurship and research is lower in key sectors of the knowledge society, while women in most of the most countries under study are experiencing inequality of opportunity. It is also clear that more consistent and systematic collection of sex-disaggregated data at the national and international levels is necessary to develop the policies that will allow countries to profit from the underutilized potential of their female population.

The GEKS framework is organized into three sections – Inputs, Outcomes and Enabling Policies, each comprised of key data indicators:

Inputs	Health, social status, economic status, access to resources, agency, opportunity and capability
Enabling Policy Environment	National knowledge society policies; childcare, equal pay, flexible work, infrastructure; CEDAW status; gender mainstreaming in government institutions
Outcomes	Knowledge society decision making; knowledge economy; S&T decision making, STI participation

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#### **About the National Assessment on Gender and STI Project:**

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More information on the project, including national reports and the Results Scorecard, are available at: [www.wigsat.org/node/49](http://www.wigsat.org/node/49).

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