

Women's contributions to sustainable socio-economic development as food producers and providers, owners of micro and small-scale enterprises, healthcare providers, household managers, educators and natural resource managers<sup>i</sup>, are critical to the achievement of poverty reduction and the MDGs. However, their S&T needs to support these activities are not adequately addressed. A gender imbalance also exists in STI education, where males outnumber females worldwide due to a range of barriers for females such as their need for safety and security, teaching methods that favour boys, preconceptions that S&T is a male domain, and unwillingness of families to support their daughters at higher levels of education. At higher levels of education, the number of women in STI falls continuously from secondary school to university, laboratories, teaching and decision making. There are consistently low levels of women in the skilled technology workforce in the private sector, with even fewer females in senior management and as leaders of large companies<sup>ii</sup>. Women have lower levels of access to ICTs such as internet and smartphones in the majority of countries in the world. *All of these gendered barriers to STI and technology access and use create a large gender divide in the knowledge society that will not improve automatically with economic growth.*

The Gender Equality – Knowledge Society (GE&KS) indicator framework was developed to address the fact that worldwide, women's capacity to participate in science, technology and innovation is grossly under-developed and under-utilized: not only do they have less access to information and technology, they are poorly represented in educational, entrepreneurship and employment opportunities. It brings together gender-sensitive data on key areas in the knowledge society (ICT, science, technology and innovation) with gender indicators of health, economic and social status to assess the barriers and opportunities for women.

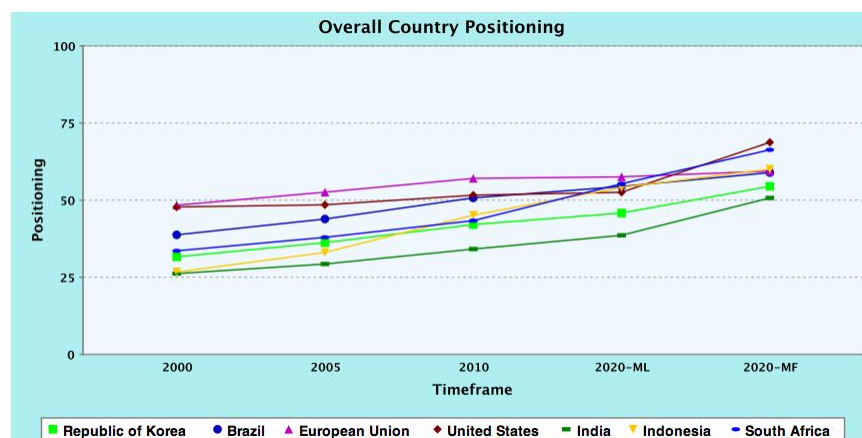
A pilot assessment of six countries and one region took place during 2012: Brazil, India, Indonesia, the Republic of Korea, South Africa, the United States, and the European Union.

## 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. *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 engineering, physics and computer science – less than 30% in most countries – while the numbers of women working in these fields are also declining.
- Women have lower levels of access to the productive resources necessary to support active engagement in the knowledge society and related professions – property (land); finance; technology; and education.
- Female parity in the science, technology and innovation fields is tied to multiple factors, with the most influential being higher economic status, larger roles in government and politics, access to economic, productive and technological resources, and a supportive policy environment. Findings also show that women gain ground in countries that have health and childcare, equal pay, & gender mainstreaming.
- Access to education is not a solution in and of itself and neither is economic status. It's only one part of what should be a multi-dimensional policymaking approach. There is no simple solution.

## Country Rankings



The **European Union** as a composite ranks first overall, and first or second in every other dimension except opportunity and capability. 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. The US ranks lowest in enabling policies. While it ranks higher in other sectors, this finding indicates that a more favourable policy environment for women in the US could be an important strategy for regenerating economic growth. **Brazil** ranks the highest of the remaining countries. It is third overall and first in women's participation in the knowledge economy and science, technology and innovation, as well as agency. Brazil is an example of a country with both a highly enabling policy environment for women and effective implementation strategies. Although **Indonesia** comes out fourth overall, its actual status is not clear as a result of a paucity of available statistics on the situation of women. Of available statistics on the situation of women, **South Africa** ranks fifth overall but first in agency. It ranks highly also in knowledge society decision-making and fairly well in STI participation. This is likely a result of a strong educational system, a policy focus on STI, and a quota system to promote diversity of participation by race and gender. The high rate of HIV in the population is a negative factor. While the **Republic of Korea** ranks first in health it is last in several sectors. Overall it ranks second to last (sixth). This shows the country has failed to adequately support its women to participate actively in its economic success and is proof of the lack of correlation between a country's GDP and gender equality. **India** ranks the lowest overall and in most categories. 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 benefit equally from its innovation advantage

<sup>i</sup> UNCTAD, 2011. *Applying a Gender Lens to Science, Technology and Innovation*. Current Studies on Science, Technology and Innovation, No. 5 ed. Geneva: United Nations.

<sup>iiiii</sup> UNCTAD, 2011; UNESCO, 2007. *Science, Technology, and Gender: An International Report*. Paris: UNESCO; UNESCO Institute for Statistics (UIS), 2011. *Global Education Digest 2011*. Montreal, Canada: UNESCO Institute for Statistics.